



HORTICULTURIST.

JOURNAL OF RURAL ART AND RURAL TASTE.

Vol. IV.

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THE
HORTICULTURIST,
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JOURNAL OF RURAL ART AND RURAL TASTE.

DEVOTED TO

HORTICULTURE, LANDSCAPE GARDENING, RURAL ARCHITECTURE, BOTANY,
POMOLOGY, ENTOMOLOGY, RURAL ECONOMY, &c.

EDITED BY A. J. DOWNING,

AUTHOR OF "LANDSCAPE GARDENING," "DESIGNS FOR COTTAGE RESIDENCES," "FRUITS AND FRUIT TREES
OF AMERICA," ETC., ETC.

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JULY, 1849.

No. 1.

ONE of the most remarkable illustrations of the popular taste, in this country, is to be found in the rise and progress of our rural cemeteries.

Twenty years ago, nothing better than a common grave-yard, filled with high grass, and a chance sprinkling of weeds and thistles, was to be found in the Union. If there were one or two exceptions, like the burial ground at New-Haven, where a few willow trees broke the monotony of the scene, they existed only to prove the rule more completely.

Eighteen years ago, Mount Auburn, about six miles from Boston, was made a rural cemetery. It was then a charming natural site, finely varied in surface, containing about 80 acres of land, and admirably clothed by groups and masses of native forest trees. It was tastefully laid out, monuments were built, and the whole highly embellished. No sooner was attention generally roused to the charms of this first American cemetery, than the idea took the public mind by storm. Travelers made pilgrimages to the Athens of New-England, solely to see the realization of their long cherished dream of a resting place for the dead, at once sacred from profanation, dear to the me-

mory, and captivating to the imagination.

Not twenty years have passed since that time; and, at the present moment, there is scarcely a city of note in the whole country that has not its rural cemetery. The three leading cities of the north, New-York, Philadelphia, Boston, have, each of them, besides their great cemeteries,—Greenwood, Laurel Hill, Mount Auburn,—many others of less note; but any of which would have astonished and delighted their inhabitants twenty years ago. Philadelphia has, we learn, nearly twenty rural cemeteries at the present moment,—several of them belonging to distinct societies, sects or associations, while others are open to all.*

The great attraction of these cemeteries, to the mass of the community, is not in the fact that they are burial places, or solemn places of meditation for the friends of the deceased, or striking exhibitions of monumental sculpture, though all these have their influence. All these might be realized in a burial ground, planted with straight lines of willows, and sombre avenues of evergreens. The true secret of the attraction

* We made a rough calculation from some data obtained at Philadelphia lately, by which we find that, including the cost of the lots, more than a million and a half of dollars have been expended in the purchase and decoration of cemeteries in that neighborhood alone.

lies in the natural beauty of the sites, and in the tasteful and harmonious embellishment of these sites by art. Nearly all these cemeteries were rich portions of forest land, broken by hill and dale, and varied by copes and glades, like Mount Auburn and Greenwood, or old country seats, richly wooded with fine planted trees, like Laurel Hill. Hence, to an inhabitant of the town, a visit to one of these spots has the united charm of nature and art,—the double wealth of rural and moral associations. It awakens, at the same moment, the feeling of human sympathy and the love of natural beauty, implanted in every heart. His must be a dull or a trifling soul that neither swells with emotion, or rises with admiration, at the varied beauty of these lovely and halloved spots.

Indeed, in the absence of great public gardens, such as we must surely one day have in America, our rural cemeteries are doing a great deal to enlarge and educate the popular taste in rural embellishment. They are for the most part laid out with admirable taste; they contain the greatest variety of trees and shrubs to be found in the country, and several of them are kept in a manner seldom equalled in private places.*

The character of each of the three great cemeteries is essentially distinct. *Greenwood*, the largest, and unquestionably the finest, is grand, dignified, and park-like. It is laid out in a broad and simple style, commands noble ocean views, and is admirably kept. *Mount Auburn* is richly picturesque, in its varied hill and dale, and owes its charm mainly to this variety and in-

tricacy of sylvan features. *Laurel Hill* is a charming *pleasure-ground*, filled with beautiful and rare shrubs and flowers; at this season, a wilderness of roses, as well as fine trees and monuments.*

To enable the reader to form a correct idea of the influence which these beautiful cemeteries constantly exercise on the public mind, it is only necessary to refer to the rapidity with which they have increased in fifteen years, as we have just remarked. To enable them to judge how largely they arouse public curiosity, we may mention that at Laurel Hill, four miles from Philadelphia, an account was kept of the number of visitors during last season; and the sum total, as we were told by one of the directors, was nearly 30,000 persons, who entered the gates between April and December, 1848. Judging only from occasional observations, we should imagine that double that number visit Greenwood, and certainly an equal number, Mount Auburn, in a season.

We have already remarked, that, in the absence of public gardens, rural cemeteries, in a certain degree, supplied their place.

* Few things are perfect; and beautiful and interesting as our rural cemeteries now are,—more beautiful and interesting than anything of the same kind abroad, we cannot pass by one feature in all, marked by the most violent bad taste; we mean the hideous *ironmongery*, which they all more or less display. Why, if the separate lots *must* be enclosed with iron railings, the railings should not be of simple and unobtrusive patterns, we are wholly unable to conceive. As we now see them, by far the larger part are so ugly as to be positive blots on the beauty of the scene. Fantastic conceits and gimcracks in iron might be pardonable as adornments of the balustrade of a circus or a temple of Comus; but how reasonable beings can tolerate them as enclosures to the quiet grave of a family, and in such scenes of sylvan beauty, is mountain high above our comprehension.

* Laurel Hill is especially rich in rare trees. We saw, last month, almost every procurable species of hardy tree and shrub growing there,—among others, the Cedar of Lebanon, the Deodar Cedar, the Paulownia, the Araucaria, etc. Rhododendrons and Azaleas were in full bloom; and the purple Beeches, the weeping Ash, rare Junipers, Pines, and deciduous trees were abundant in many parts of the grounds. Twenty acres of new ground have just been added to this cemetery. It is a better *arboretum* than can easily be found elsewhere in the country.

But this is not all; as if to show how far human infirmity can go, we noticed lately several lots in one of these cemeteries, not only enclosed with a most barbarous piece of *irony*, but the gate of which was positively ornamented with the coat of arms of the owner, accompanied by a brass door plate, on which was engraved the owner's name and city residence! All the world has amused itself with the epitaph on a tombstone in Pere la Chaise, erected by a wife to her husband's memory; in which, after recapitulating the many virtues of the departed, the bereaved one concludes with—"his disconsolate widow still continues the business, No. —, Rose-street, Paris." We really have some doubts if the disconsolate widow's epitaph-advertisement is not in better taste than the cemetery brass door-plate immortality of our friends at home

But does not this general interest, manifested in these cemeteries, prove that public gardens, established in a liberal and suitable manner, near our large cities, would be equally successful? If 30,000 persons visit a cemetery in a single season, would not a large public garden be equally a matter of curious investigation? Would not such gardens educate the public taste more rapidly than anything else? And would not the progress of horticulture, as a science and an art, be equally benefitted by such establishments? The passion for rural pleasures is destined to be the predominant passion of all the more thoughtful and educated portion of our people; and any means of gratifying their love for ornamental or useful gardening, will be eagerly seized by hundreds of thousands of our countrymen.

Let us suppose a joint stock company, formed in any of our cities, for the purpose of providing its inhabitants with the luxury of a public garden. A site should be selected with the same judgment which has already been shown by the cemetery companies. It should have a varied surface, a good position, sufficient natural wood, with open space and good soil enough for the arrangement of all those portions which require to be newly planted.

Such a garden might, in the space of 50 to 100 acres, afford an example of the principal modes of laying out grounds,—thus teaching practical landscape-gardening. It might contain a collection of all the hardy trees and shrubs that will grow in this climate, each distinctly labelled,—so that the most ignorant visitor could not fail to learn something of trees. It might have a botanical arrangement of plants, and a lecture room where, at the proper season, lectures on botany could be delivered, and the classes which should resort there could study with the growing plants under their

eyes. It might be laid out so as, in its wooded positions, to afford a magnificent drive for those who chose so to enjoy it; and it might be furnished with suitable ices and other refreshments, so that, like the German gardens, it would be the great promenade of all strangers and citizens, visitors, or inhabitants of the city of whose suburbs it would form a part. But how shall such an establishment be supported? Cemeteries are sustained by the prices paid for lots, which, though costing not a large sum each, make an enormous sum in the aggregate.

We answer, by a small admission fee. Only those who are shareholders would, (like those owning lots in a cemetery,) have entrance for their horses and carriages. This privilege alone would tempt hundreds to subscribe,—thus adding to the capital, while the daily resort of citizens and strangers would give the necessary income; for no traveller would leave a city, possessing such a public garden as we have described, without seeing that, its most interesting feature. The finest band of music, the most rigid police, the certainty of an agreeable promenade and excellent refreshments, would, we think, as surely tempt a large part of the better class of the inhabitants of our cities to such a resort here as in Germany. If the road to Mount Auburn is now lined with coaches, continually carrying the inhabitants of Boston by thousands and tens of thousands, is it not likely that such a garden, full of the most varied instruction, amusement, and recreation, would be ten times more visited. Fêtes might be held there, horticultural societies would make annual exhibitions there, and it would be the general holiday-ground of all who love to escape from the brick walls, paved streets, and stifling atmosphere of towns.

Would such a project PAY? This is the home question of all the calculating part of the community, who must open their purse strings to make it a substantial reality.

We can only judge by analogy. The mere yearly rent of Barnum's museum in Broadway is, we believe, about \$10,000, (a sum more than sufficient to meet all the annual expenses of such a garden;) and it is not only paid, but very large profits have been made there. Now, if hundreds of thousands of the inhabitants of cities, like New-York, will pay to see stuffed boa-constrictors and *un-human* Belgian giants, or incur the expense and trouble of going five or six miles to visit Greenwood, we think it may safely be estimated that a much larger number would resort to a public garden, at once the finest park, the most charming drive, the most inviting pleasure ground,

and the most agreeable promenade within their reach. That such a project, carefully planned, and liberally and judiciously carried out, would not only *pay*, in money, but largely civilize and refine the national character, foster the love of rural beauty, and increase the knowledge of and taste for rare and beautiful trees and plants, we cannot entertain a reasonable doubt.

It is only necessary for one of the three cities which first opened cemeteries, to set the example, and the thing once fairly seen, it becomes universal. The true policy of republics, is to foster the taste for great public libraries, sculpture and picture galleries, parks and gardens, which *all* may enjoy, since our institutions wisely forbid the growth of private fortunes sufficient to achieve these desirable results in any other way.

ON BARK BOUND CHERRY TREES.

BY R. NEWTON, WORCESTER, MASS.

THE able article of Professor TURNER, in your last February number, upon the bursting of the cherry tree, will be the means of saving many a tree, growing on highly cultivated soil. If any one doubts his theory, let him try a strip of the outer bark, which he will find nearly as tough as a sheet of tin. The tree continues to grow faster than the bark expands, until the bark becomes so full of compressed wood that it must burst, or the tree must stop growing. It then bursts suddenly, and decay commences.

I believe that Professor TURNER will be satisfied, upon reflection, or certainly by a little practice, that he has not adopted the best remedy; and for that reason alone, I trouble you with this article.

Young cherry trees, which stand much

exposed to the sun, are sometimes killed by having a strip of the exterior bark peeled off entirely round them. From this fact, I infer that taking off all the bark from the entire body, at any age, must injure their health and growth.

My practice has been, to *draw a sharp knife spirally and lightly round the tree*, from the ground to its limbs, from two to four times, depending on the size of the tree, and at as nearly equal distances as the eye will direct. Then draw the knife in a contrary direction round the tree in a similar manner. This cuts the rind into small diamond shaped pieces without taking it off; and the spiral cuts will never produce bursting, because that is always lengthwise of the tree. Light cuts are sufficient, because the bark is thin, and the pressure

within will soon open them. The bark, by remaining on, protects the tree from the sun, and leaves it in a more natural and healthy state. I should advise performing the operation when the tree is from three to five inches in diameter. Two minutes

to a tree is all the time necessary for the work. I have not had a tree burst for more than twenty years, although I have had from five to fifteen growing all that time.

R. NEWTON.

Worcester, Mass., 1849.

ON THE PRINCIPLE OF SUGGESTION IN RURAL TASTE.

BY W., LENOX, MASSACHUSETTS.

VENTURING to remark lately, in a mixed company, that suggestion was the soul of all interior harmony in houses and gardens, as well as in the fine arts, and that the possessor should suggest his house, so that there should be an open fitness to the eyes of all men:—"And pray, sir, may I ask, what sort of a house do I suggest?" said a square built, matter-of-fact, prosaic gentleman, in a high tone of banter, raising a laugh at my expense; so that I could not avoid replying, trusting to instinct. "You, sir, suggest to me a red brick house, with solid walls, square, gable to the road, the window sills all painted white, with a white picket fence, and four cherry trees in front." "Sir," said my man, "you are a conjuror, and, if you will, shall draft a house for me." It tickled my fancy to follow out my principle of suggestion from step to step, to see how far it would hold good, so that I felt sure that any man of sense could avoid all those mistakes in taste so frequently made, by asking in regard to each feature in succession,—“what is there in my character, or circumstances, in the nature of my grounds, or the condition of the country about, to suggest or demand such a feature?”

It may be objected, that the suggestion to the truly cultivated taste would be a different one from that to the probable owner; but, I reply, the mere putting the

question implies a reference to a certain absolute standard, though a correct taste would undoubtedly answer the question most satisfactorily.

When I see that farmer X. has a jimpy clap-board-Gothic cottage, springing up in the midst of his unsheltered farm; and when I know that the good man would never have dreamed of it without the assistance of his wife and daughter, nor they, if they had known the fitting and proper, I may be a little out of patience; but I comfort myself with this electric spread of ideas among us. A clever man has only to publish a clever book, and in five years' time we read his name on every hill side through New-England. This assures us, that in another generation we shall read it in a more honorable, or rather, more harmonious form.

I wish we had a type of farm-house, that might be modified to a true expression of the ideal of a farm. The farm suggests labor, earnestness, repose. We think of it as neither smart nor busy, brisk nor money-making; but dignified, earnest, sincere. The English ideal, all farmery and piggery, all sheep and turnips, is, to our fancy, growing too commercial; at all events, it is a manufactory—what our farms are not,—perhaps never will be. The farmer with us, is he who stands where he is, and

works with his hands, living by God's dispensation to Adam, whilst others engage in the lottery of commercial life, or in the more lucrative professions.

Our farm-house should be large and roomy. It should have a certain grandeur and simplicity of form, and an absence of conscious ornament. When the clouds overshadow it, it may look stern or even gloomy, but shall smile when the sun shines out, like the mountain tops, or the sunlit trees. If not *pretty*, it shall be picturesque; it shall sympathise with, and not break into the landscape.

We have seen farm-houses in the old country that answered to this description, but they were not such as we can safely copy. Happy accidents; half castellated buildings,—the relics of past time, upon which age had cast a softening tinge, and pruned off excrescences; but surely, an artist of genius might lay down the rules within which such buildings could exist.

The farmer loves to live in the sunlight. He cannot see the beauty of overshadowing his house with trees. Therefore, the farm-house, above all others, requires a form that need not shrink from exposure.

Our fences mar our landscapes, and especially our farm-houses. All lovers of landscape will congratulate themselves, should the wire fences come generally into use.

A smart house suggests smart grounds. Such, if your land is small, your grounds may be. But woe to the owner of broad lands, in this country, if he try to keep up smart and extensive grounds. He had need of a brother from California every year. The suggestive demands of his smart house may ruin him. To a man of taste, to whom it is a necessity of life to have things in keeping, to have nothing suggested that is not fulfilled, a shade or two difference in the colour of his house, may make a serious difference in his expenditure. "It's not the carriage that costs, my dear, but what the carriage suggests," viz., champagne for cider, and a dinner party once a week.

All taste, as well as all tact, consists in following the suggestion of circumstances and character; and the fine eye, to detect the essential, among the indifferent circumstances, is the one advantage of a cultivated taste. W.

Lenox, Mass., June, 1849.

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[The foregoing contains the pith of a whole volume; and the writer will see, in our forthcoming work on "Country Houses," how entirely we have arrived at the same point; a point which, rightly understood, gives a new meaning to all rural architecture. ED.]

A VISIT TO THE LONDON HORTICULTURAL SOCIETY'S GARDEN.

BY H. W. SARGENT.

[THE following extract from a letter, lately received from a friend, travelling in England, will interest a great many of our readers, though not written for publication. ED.]

I must not forget to tell you of my visit

yesterday to the gardens of the Horticultural Society at Chiswick. I spent there three hours, full of interest. Mr. THOMPSON (thanks to your kind introduction,) taking the greatest pains to gratify my curiosity in every respect, and affording

me every opportunity of seeing the whole of this finest of experimental gardens.

In the first place, he showed me his *fruit-room*, 70 by 16 feet, constructed with double walls, 8 inches apart, the hollow space between filled with moss. He never uses fire, though in 1847 the mercury, in the open air, fell to 5° below zero. The room is lined with open shelves, upon which fruit is placed.

I then examined the pear trees, which are trained in four different modes. First, wall and horizontal training; these are beautiful specimens of training,—the trees mostly 30 years old, but this season showing but little fruit. Next came a walk with a double row of pears on either side, in quincunx order,—the trees not more than six feet apart. On one side of this walk the trees were standards, eight feet high, trained *en quenouille*; and on the other side were trees of the same height, *pyramid*. The fourth mode consisted of *umbrella standards*; trees trimmed up eight feet, with naked stems, and then shooting out from the crown, upon every side, pendulous branches, bending to the ground, and really resembling some palms in their growth. These drooping branches always remained the same, as they are *spurred-back* regularly every year to one bud; hence they are covered with unsightly excrescences. Mr. THOMPSON does not like this method of training, and proposes to abandon it.

The Horticultural Society now cultivate here about 700 varieties of pears; but Mr. THOMPSON informed me that he would not cultivate for his own use, nor recommend to the most zealous amateur, more than 50 varieties out of this number.

In reply to that difficult question,—what are the five or six best autumn, and five or six best winter pears? his answer was as follows:

Autumn Pears.

Marie Louise,
Louise Bonne de Jersey,
Thompson,
Beurre Bose,
Knight's Monarch.

Winter Pears.

Knight's March Bergamot,
Glout Morceau,
Beurre Ranz,
Ne plus Meuris,
Winter Neils.

Of all the pears, Mr. THOMPSON appeared to think most highly of *Knight's March Bergamot*, both for its excellence and length of keeping.

The number of peaches in the Horticultural Society's collection has been reduced to 18 or 20 varieties, by selecting from the large list in the Catalogue only a portion of those marked first rate. The *Belle garde* is here considered the best peach; next, in good seasons, ranks the *Royal George*. In England, our *George 4th*, though fine, does not, like most American peaches, bear the wall well. The only novelty, in this way, was a tree of the *Shanghae* peach, from China, with reniform glands,—the quality of the fruit not yet tested. The finest new nectarine is the *Stanwick*. Of grapes, the new sort, most highly spoken of by Mr. THOMPSON, was the *St. Albans*,—white, round berries, large bunches and shoulders. Then there was the *Gros Gommier des Cantal*, a grape with remarkably short jointed wood, each joint not exceeding an inch to an inch and a half in length; the fruit, in colour and flavor, a mingling of *Black Hamburg* and *Sweet Water*. Another grape that promises well is the *Raisin de Calabre*,—the bunches long, the berry round and white, and the fruit hanging a long time, like *Oldacre's St. Peters*, and, therefore, an excellent companion to that variety in a vinery. *Blussard Noir* is a grape like a small *Black Hamburg*, only earlier and higher flavored, and is, therefore, well worthy of cultivation. *Reeves' Muscadine* is finer and larger than the common *Muscadine*,—*Sahibee*; very large in berry and bunch, but wanting in flavor. Mr. THOMPSON is practicing a new kind of mid-summer pruning upon his walls and

grapes, which, so far, gives him great satisfaction. He commences at the top of the wall or house, and works down to the bottom, *stopping* [pinching the ends off. *Ed.*] all redundant growth early in June. About ten days afterwards, he begins at the top and prunes and dresses as usual, laying-in (unless spurred) his next year's wood. Formerly his men began at the bottom of the tree or wall, and pruned as high as they could reach,—going in this way round a wall of two or three acres. Then they took a ladder, and beginning directly above where they commenced before, they dressed the remainder or upper part of the wall. The result was, that during the interval of the top and bottom dressings, the sap, diverted from the lower part of the tree, was thrown (in addition to its natural tendency in that direction,) into the upper, untrimmed portion of the tree, causing great elaboration there, and a corresponding torpor in the reduced and pruned portion below. The result was, that the lower part of the tree became barren; whereas, by the present system of pruning, the top being trimmed first, the extra sap is forced into the lower branches; and hence these lower branches, even within six inches of the ground, are covered with fruit, bearing, perhaps, even more than the upper limbs.

Mr. THOMPSON informed me that WILMOT, and the other market growers of the grape, make all their bunches of the *pound size*,* in preference to a larger size. They do not thin out the berries so much, but they cut off the points of the bunch, making the cluster resemble (if I have not forgotten my mathematics,) an oblate spheroid.

Keen's Seedling strawberry still holds its place in Mr. THOMPSON'S estimation, as

the best strawberry for cultivation here, though many prefer Myatt's British Queen.

In a conversation which I had with Mr. THOMPSON, on the diseases of fruit trees, he told me that he had never seen anything like our fire-blight or frozen-sap-blight in the pear; nor can he conjecture the cause of the former. The latter, considering our great changes of temperature, he thought more intelligible; and he thinks a remedy, that I desired my gardener to try a year ago, might be efficacious, viz., *strawing up* the stem and principal branches, and more especially those exposed to the rays of the sun in winter.

Our great peach enemies, the yellows and peach worm, are alike unknown here; he has seen one instance only of a disease in the peach tree, resembling in its character the yellows. It was an American tree, I think a George 4th, which was budded on a peach bottom, and trained against a south wall. It ripened its fruit prematurely, pushed out the clusters of small, narrow leaves, became quite yellow in foliage, and finally died. He attributed it to the fact of its being worked on a peach, instead of a plum bottom, as all the other trees in the Horticultural Society's garden are; and he suggested that we should always bud our peaches on plum stocks. I think, however, the disease he referred to was probably imported in the tree from America. If so, it does not seem to have communicated the yellows to any of the English trees.*

The Horticultural Society is paying considerable attention, just now, to their *arboretum*. A few of the trees that struck me were the Dovarton yew, a rather up-

* Most persons preferring to buy half a dozen bunches of a pound each, to one large bunch of six pounds.

* We are every day more convinced that the yellows is nothing more than a constitutional languor, brought about, as we have before suggested, by poor soil and bad culture for several generations. It has nearly disappeared in our neighborhood, where there are now trees 16 or 18 years old, bearing, every year, very fine crops of delicious fruit. *Ed.*

right variety of the common English yew ; the *Ribes speciosum*, a beautiful shrub with flowers, resembling the *Fuchsia gracilis*, and quite hardy ; the new Japan cedar, *Cryptomeria japonica*, somewhat between the *Torreya* and our deciduous cypress in foliage and colour, but gracefully drooping ; the *Pinus Hartwegii*, with foliage seven to eight inches in length ; *P. Erzerum*, with unusually dark, stiff foliage, etc.

The green-houses and conservatories are admirably neat and well kept, and contain some very fine plants. There was a *Brugmansia sanguinea*, (the true sort I had never seen before,) which resembles *B. Knightii*, except the flowers were red instead of white. It was sixteen feet high, and had, the gardener said, over 300 flowers upon it. I saw, also, an exceedingly fine Arau-

caria excelsa, twenty-three feet high, very feathery and beautiful, and a specimen of a *Braziliensis*, which was very fine. There were also two striking plants of *Grevillia robusta*, and *Polycata grandiflora* ; one seventeen feet, and the other fourteen feet high, and both laden with flowers.

You know all the gardening novelties so well now at home, and get all the new plants so soon, that I am doubtless telling you old news. As, however, I have scarcely seen a horticultural magazine for two years, all these fruits and plants are quite fresh and interesting to me.

The Horticultural Society's gardens contain, in all the departments,—ornamental, fruit, and kitchen gardens,—about thirty acres ; but they are about increasing it very much, as the fruit ground is very much crowded. Yours sincerely, H. W. S.

PRACTICAL HINTS TO AMATEURS.

BY AN OLD DIGGER.

If you have a crop in your kitchen garden which looks sickly, water it once or twice with guano water, (a handful of guano to a pail of water ;) stirring the soil with the hoe before applying the water.

This is the season of the year to give shape to your shrubs or plants. A little shortening-back now, on overgrown shoots, will make the dormant buds push out new shoots on parts of a shrub or tree which are deficient in foliage, so as to bring it into good shape before the season of growth is past. For small plants, that you wish to make bushy and thick, there is nothing like *pinching-off* the ends of the leading shoots while they are young. It gives you thick and compact heads of leaves, instead of few and slender shoots.

Do't be discouraged at the inroad of an insect, that threatens to destroy your favorite trees or plants. Set about studying its natural history, and depend upon it, if you only get a correct notion of its habits, you can soon exterminate it by a little energy and perseverance. Tobacco water, as recommended by the editor, in the last number, will kill any insect, if it is judiciously applied, and *perseveringly repeated*, however much they may seem to defy it at first. Always use it in the morning, or just at evening ; for it is throwing away your ammunition to fire into the enemy's quarters in mid-day, when they are wide awake, and ready to dodge the fire.

If you want to propagate everblooming roses by *cuttings*, your best time is now,

just as the young wood begins to harden, after the first flowers are past. A frame, sunk on the north side of a fence or wall, with a sash to cover it, will enable you to raise hundreds of roses with very little attention. Make the soil in the frame six inches deep, of rich mould, mixed with one-half fine sand. In this plant the cuttings, with a single leaf left on the top of each. Water them every evening, leaving the sash off all night, and replacing it early in the morning. In case you want them to plant out in the borders, you may let the cuttings grow in the frame where they strike all summer,—covering the glass with about six inches of straw in the winter, and planting out the young plants early the next spring; but if you want them for pot culture, then, of course, plant the cuttings in pots, instead of the soil of the frame; and in five or six weeks they will have formed new roots, so that you may re-pot them—one in each small pot.

To have raspberries very large and fine, you must make a new plantation every fourth year. The soil should be trenched 20 inches deep, and a quantity of coal ashes and stable manure turned well underneath. The raspberry likes a cool deep soil; and a top dressing of guano every spring adds greatly to the size of the fruit.

Look over your cherry trees, and see that none of them suffer from being hide bound. If they look unnaturally small in any part of the trunk, and swollen in other parts, you may be sure this is the case; and if you do not relieve it, by slitting the outer bark with your knife, the tree will soon decline. Old cherry trees are very much improved in health and productiveness by shortening-in the long branches at this season of the year,—thus forcing them to make some thrifty new shoots.

Plum trees like a moist soil. I have

found that covering the ground four inches deep with old spent *tan-bark*, is a good way of preserving the moisture, and keeping the tree in health. I scatter fresh lime thickly over the surface of the tan every year, as soon as the green fruit begins to fall. This kills every curculio that attempts to enter the ground. The tan prevents the weeds from growing, keeps the roots cool, and insures me good crops of plums. I spread it as far as the roots extend, and it wants renewing, or adding to, once in three or four years.

Do't indulge in the folly of *hilling up* all the plants you raise in your kitchen garden. If you study nature, you will see that as plants grow older, the roots at the base of the stem always incline to *raise out* of the earth; from which, it is clear that they prefer not to be wholly buried up in it. Besides, unless it is a plant that dislikes moisture, you lose half the benefit of the summer showers by piling up a hill over the roots to turn off the rain. It is much better to loosen the ground thoroughly, and keep it nearly level.

Liquid manure is of great advantage to crops in a growing state; but it has double the usual effect if applied in damp and cloudy weather.

In raising hedges, the great point is to get *breadth at the bottom*. It is easy enough to get a hedge high enough; but if you let it run up without cutting it back, so as to make a broad and thick base, you can never make that base broad and thick afterwards. Shorten-back, therefore, till you achieve what you want at the bottom; and the top will afterwards take care of itself.

If you find any of your favorite fruit trees are failing from dryness of the season, or heat of the sun, cover the surface of the ground two or three inches deep with straw.

Indeed, nothing benefits any delicate tree so much, in this climate, as keeping the roots in a uniform temperature, by this coat of straw, laid on the surface of the ground.

There are few trees such gross feeders as the grape-vine. Soap-suds and liquid manure, applied every week, will give an amount of luxuriance and a weight of fruit, on a single vine, that seems almost incredible. I have seen an Isabella grape produce 3,000 fine clusters of well ripened fruit in a single season, by the liberal use of manure and soap-suds from the weekly wash.

If you wish to bring fruit trees into bearing at an early age, pinch off the ends of the shoots now, and again at the end of six weeks. This accumulates the sap, and the surplus becomes fruit buds for the next season.

The secret of neatness and economy in summer culture of a garden, is to *stir the ground often*. It is a trifling task to destroy an acre of weeds, if you take them half an inch high; but a very laborious undertaking to get them subdued, if they once are allowed to make strong roots, and leaves of full size.

CULTURE OF THE PEAR ON THE QUINCE STOCK.

BY THOMAS RIVERS, SAWBRIDGEWORTH, ENGLAND.

"THIS is without contradiction the most natural form of a great many trees; the success that has followed their cultivation for many years proves the goodness of this system of training."* I give the words of a most experienced French gardener, and can add my testimony as to the eligibility of this mode of cultivating the pear in England, and I cannot but express my surprise that it has fallen to my lot to bring it before the public, practiced as it has been for so many years on the continent.

For gardens with a moderately deep and fertile soil, pears budded on the quince stock will be found to make by far the most fruitful and quick-bearing trees; indeed, if prepared by one or two removals, their roots become a perfect mass of fibres, and their stems and branches full of blossom-buds. Trees of this description may be planted in the autumn, with a certainty of having a crop of fruit the first season

after planting; always recollecting that a spring frost may destroy the blossom unless the tree is protected.

The most eligible season for planting pyramidal pear trees is during the months of November and December, but they may be planted even until the end of March; in planting so late, no fruit must be expected the first season. If root-pruned pyramidal trees are planted, it will much assist them if about half the blossom buds are thinned out with sharp pointed scissors or a pen-knife just before they open; otherwise these root pruned trees on the quince stock are so full of them, that the tree receives a check if they are all allowed to expand. About ten or fifteen fruit may be permitted to ripen the first season; the following season two or three dozen will be as many as the tree ought to be allowed to bring to perfection, increasing the number as the tree increases in vigor, always remembering that a few full sized and well ripened pears are to be preferred to a

* D'Albret sur le taille des Arbres Fruitiers. Seventh edition, 1843.

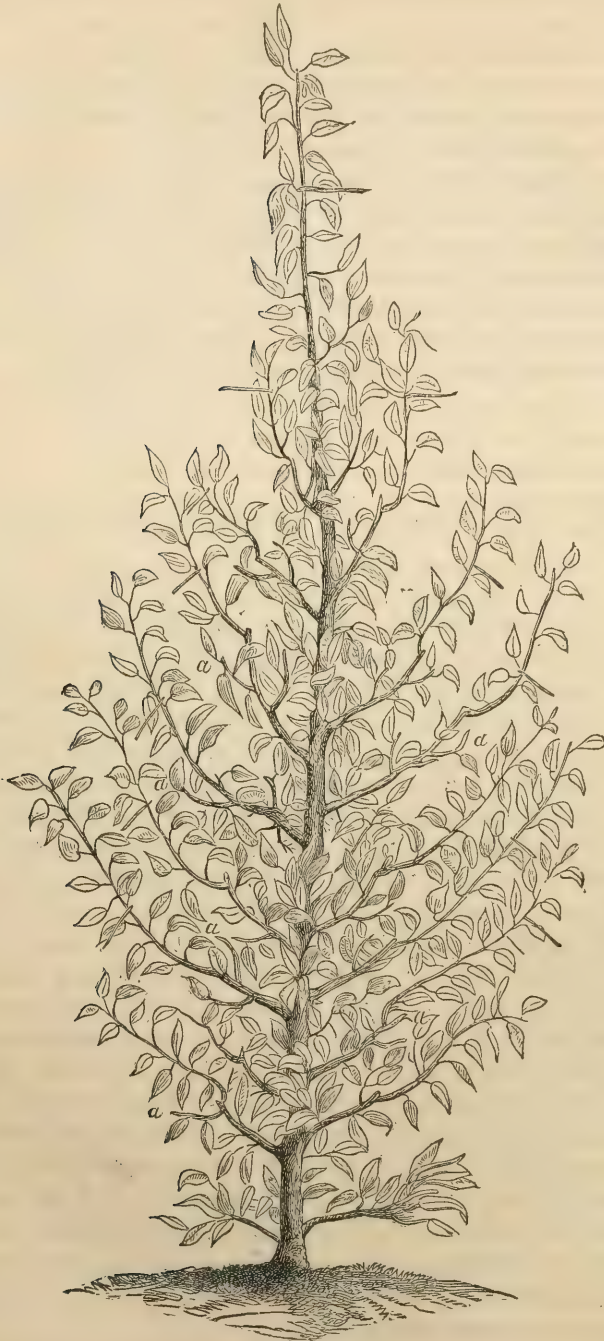


Fig. 63.

greater number inferior in size and quality.

In engraving at end, I have given a faithful portrait of a pyramidal tree of *Beurré de Capiaumont*,* budded on the quince; this was taken in 1846; the tree was then about ten years old, and had been root pruned three times; nothing could be more interesting than this tree, only six feet high, laden with fruit of extraordinary beauty; for in my soil pears on quince stocks produce fruit of much greater beauty and of finer flavor than those on pear stocks. I have, however, introduced the figure of this tree as much to show its imperfection as its beauty; it will be observed that its lower tiers of branches are not sufficiently developed; this was owing to neglect when the tree was young; the upper branches were suffered to grow too luxuriantly. Summer pinching in the youth of the tree is the only remedy for this defect, if it is not well furnished below, and a severe remedy it is, for *all* the young shoots on the upper tiers, including the leader, must be pinched closely in May and June, till the lower ones have made young shoots of a sufficient length to give uniformity to the tree. This requires much attention and trouble; it is better to be careful not to plant any tree for a pyramid that is not well furnished with buds and branches to its base. A tree of this description may soon be made to assume the shape of fig. 63, which is a perfect pyramidal pear tree, such as it ought to be in July, before its leading side shoots and perpendicular leader are shortened, which is best done towards the end of August: this shortening must be made at the marks —, and all the side shoots shortened in the same manner; also the leading shoot. Hooked pruning scissors will be found the best implement to prune with. The spurs

a a a are the bases of the shoots that have been pinched in June.

PLANTING AND AFTER MANAGEMENT.

As before mentioned, the autumnal and early winter months are to be preferred for planting; care should be taken in selecting trees that are furnished with buds and branches from bottom to top; but if a young gardener intends to plant, and wishes to train up his trees so that they will become *quite* perfect in shape, he should select plants one year old from the bud or graft; these will, of course, have good buds down to the junction of the graft with the stock. The first spring, a tree of this description should be headed down so as to leave the shoot about 18 inches long; if the soil is rich, from five to six and seven shoots will be produced; one of these must be made the leader, and if not inclined to be quite perpendicular, this must be fastened to a stake. As soon in summer as the leading shoot is ten inches long, its end must be pinched off, and if it pushes forth two or more shoots, pinch all off but one, to about two inches, leaving the topmost for a leader; the side shoots will in most cases assume a regular shape; if not, they may be this first season tied to slight stakes to make them grow in the proper direction. This is best done by bringing down and fastening the end of each shoot to a slight stake, so that an open pyramid may be formed; for if it is too close and cypress-like, enough air is not admitted to the fruit; they may remain unpruned till the end of August, when each shoot must be shortened to within eight buds of the stem,* this will leave the tree like the annexed figure, fig. 64, and no pruning in winter will be required.

The second season the trees will make vigorous growth; the side shoots which

* This drawing is omitted.

* There are generally three or four abortive buds at the base of each shoot; these must not be reckoned.



Fig. 64.

were topped last August will each put forth three, four, or more shoots ; as soon as these are four inches long they must be pinched off to within three inches, *all but the leading shoot of each side branch* ; this must be left on, to exhaust the tree of its superabundant sap, till the end of August. The perpendicular leader must be topped once or twice ; in short, as soon as it has grown ten inches, pinch off its top, and if it breaks into two or three shoots pinch them all but the leader, as directed for the first season ; in a few years most symmetrical trees may be formed.

When they have attained the height of six or eight feet, and still continue to grow vigorously, it will be necessary to commence root pruning, to bring them into a fruitful state.

I have thus far given directions for those who are inclined to rear their own pyramids. Much time and attention are required ; but the interest attached to well trained pyramids will amply repay the young cultivator.

I will now endeavor to give directions for the management of trees adapted for the gardener of mature age, who feels somewhat impatient if his trees do not begin at once to be fruitful. A most valuable auxiliary to precocious fruitfulness in pears is the quince stock ; pears grafted on it may be safely recommended for all soils of moderate depth and fertility, and even for light and sandy soils I am induced to advise it, only in those circumstances the trees must have more care and higher cultivation. In soils of that nature I should recommend the surface of the soil round the tree to be covered during June, July, and August with short grass, moss, or manure, and to give them once a week, in dry weather, a drenching with guano water, (about two pounds to six gallons,) which must be well stirred before it is used ; each tree should have twelve gallons poured gradually into the soil : by this method the finest fruit may be produced ; and as it is very probable that, ere many years elapse, we shall have exhibitions of pears, this will be the mode to procure fine specimens to show for prizes. Our oldest gardening authors have said that “pears engrafted on the quince stock give the fairest fruit ;” and they are correct. It has been asserted that the fruit is liable to be gritty, and deficient in flavor. I can only say that from my trees, growing on a cold, clayey soil, I have tasted fruit of Marie Louise, Louise Bonne of Jersey, and others, all that could be wished for in size and flavor.

Pyramidal pear trees of from three to five years old on the quince stock, root

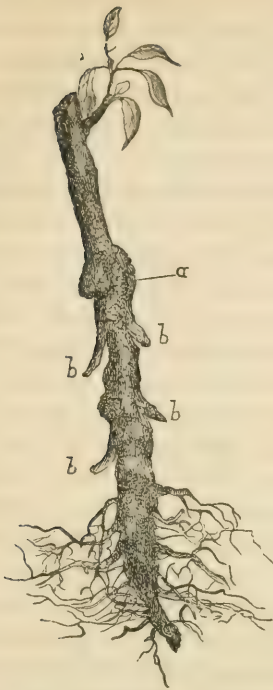


Fig. 65.

pruned, and full of blossom buds, may now be purchased. Trees of this description should, if possible, be planted before Christmas; but if the soil is very tenacious, the holes may be opened in the autumn, and the trees planted in February; the soil will be mellowed and benefitted by the frosts of winter.

In planting pear trees on the quince stock, it is, as I have very recently discovered, quite necessary that the stock should be covered up to its junction with the graft. This jointing of the graft to the stock is generally very evident, even to the most ignorant in gardening matters; it usually assumes this form, (fig. 65, *a.*)

If the soil is not excessively wet, the tree may be planted in the usual manner, so that the upper roots are on a level with the surface of the soil. No manure of any kind should be put to them; but if the soil

in which it is planted be not light and friable enough to enter freely into the mass of fibrous roots, some light mould should be procured; this should be carefully filled in, and the tree well shaken, so that the earth is thoroughly mingled with its roots. When this is done, the earth all filled in, and trodden lightly, the tree, according to the usual method, is planted. But with pear trees on the quince something more is required; this is simply to form a mound of compost, about half rotten manure and earth, mixed in equal quantities, which must cover the stock up to the junction of the graft, as above, to the letter *a*, and is made of rich compost, in order to encourage it to emit roots into the surface soil, and to keep it from becoming hard and "bark-bound."

To make this emission of roots more certain, the stem may be tongued as usual in layering; i. e., the bark must be cut through upwards from the root, and a slip about one inch in length raised, (see fig. 65, *b b b b*, which are the raised pieces of bark,) and these raised pieces of bark must be kept open by inserting a piece of broken flower pot or slate. Several of these tongues may be made, and by the end of the first year after planting every incision will have emitted roots; the stock, owing to its being kept constantly moist, will swell and keep pace with the graft, and the tree will flourish and remain healthy. As the mound will subside by the heavy rains of winter, presuming that the trees have been planted in autumn, fresh compost of the same nature must be added in spring, and again every succeeding autumn. The great object in the culture of the pear on the quince stock is to encourage the growth of its very fibrous roots at the surface, so that they may feel the full influence of the sun and air. These mounds may be made orna-



Fig. 66.

mental if required, by placing pieces of rock or flint on them, which will also prevent the birds scratching at them for worms, but the stones selected must not be large and heavy.

Presuming that root pruned pyramidal trees on the quince are planted as above directed, pruning is the next thing to be considered; this, as the tree is already formed, is very simple, requiring slight annual attention in summer; the employment is light, and perhaps the most agreeable of all horticultural occupations.

The first season after the planting, the side buds and branches will put forth young shoots, each will give from one to three or four; select that which is most horizontal

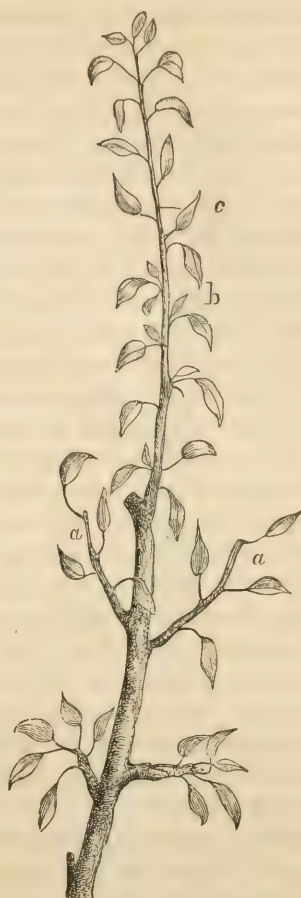


Fig. 67.

in its growth (it should be on the lower part of the branch, as the tree will then be more inclined to spread) for a leader, and pinch off all the others to two inches in length; (see fig. 63, *a a a*); if these pinched shoots again push, suffer them to grow two inches, and then pinch them to one inch; but if the horizontal branch has a good leader, it will take off all the superfluous sap, and prevent the pinched spurs from breaking; their buds will only swell, and the following season they will be fruit spurs.

Fig. 67 is a side branch in June, with its

shoots not yet pinched. Fig. 67 is a side branch, with its shoots *a a*, pinched; *b*, is the side leader, which should be pinched or cut off towards the end of August to *c*.

The perpendicular leader of the preceding year's growth, will in spring put forth numerous shoots which must be pinched in June, as follows: those nearest the base, leave six inches in length, gradually decreasing, leaving those next the young leading shoot only two inches long. The leader of these ready formed pyramids need not be shortened in summer, as directed for younger trees, it may be suffered to grow till the horizontal leaders are shortened in August, and then left six or eight inches in length; but if the trees are intended to be kept to six or seven feet in height under root pruning, this leading shoot may be shortened to two inches, or even cut close down to its base; for tall pyramids of ten, twelve, or fifteen feet, it may be left from eight to ten inches in length, till the required height is attained; it may then be cut to within two inches of its base every season.

I ought here to remark that pear trees differ in their habits to an extraordinary degree; some make shoots most robust and vigorous; others, under precisely the same treatment, are very delicate and slender. In the final shortening in August, this must be attended to; those that are very vigorous must not have their shoots pruned so closely as those that are less so: indeed, almost every variety will require some little modification in pruning, of which experience is by far the best teacher; it will, I think, suffice if I give the following directions for shortening the leaders of the side shoots and the perpendicular leaders. All those that are very robust, such as *Beurré d'Amalis*, *Vicar of Winkfield*, *Beurré Diel*, &c., shorten to eight and ten inches, de-

pendant on the vigor of the individual tree; those of medium vigor, such as *Louise Bonne of Jersey*, *Marie Louise*, and *Beurré d'Aremberg*, to six inches; those that are delicate and slender in their growth, like *Winter Nelis*, to four inches; but I must repeat that regard must be had to the vigor of the tree. If the soil be rich, the trees vigorous, and not root pruned, leave the shoots the maximum length; if, on the contrary, they be root pruned, and not inclined to vigorous growth, prune more closely.

The *quenouille*, or tying down system, is now quite out of fashion in France, and in truth it does look very barbarous and unnatural. The trees trained in this manner in the *Potagerie*, at Versailles, are mostly on quince stocks; they are from twenty to forty years old, and are very productive, but very ugly; all the shoots from the horizontal and depressed branches are cropped off apparently in July, as *M. Puteau*, the director, is, I believe, adverse to the pinching system of *M. Cappe*. In my tour last autumn, I did not observe a single *quenouille* in Belgium; all were pyramids, even in the gardens of the cottagers, and, in general, these were very beautiful and productive trees. In many cases when on the pear stock they were too luxuriant, and required root pruning; but this I could not make the gardeners comprehend.

Pears on the quince may also be cultivated as horizontal *Espaliers* by the sides of walks, or trained to walls with much advantage, as less space is required. *Espaliers*, or wall trees on the pear stock, require to be planted twenty-four feet apart, while those on the quince may be planted only fifteen feet apart; this, in a small garden, will allow of much greater variety of sorts to supply the table at different seasons. With these the same high culture,

if perfection is wished for, must be followed; the trees carefully planted, so that the junction of the graft with the stock is even with the surface of the mound formed as directed for pyramids. Careful annual root pruning with the knife will leave scarcely anything to be done in that way with the branches of the trees; but if they put forth shoots inclined to vigor, these, after Mr. Thompson's method at the Horticultural Society's gardens, may have their points cut off in June,* and towards the end of August be shortened to within two or three buds of their base. For fine specimens of wall pear trees grafted on the quince, I may refer to those on the west wall of the Horticultural Society's gardens; these are now about twenty-five years old, and are pictures of health and fertility; thus at once settling the question respecting the early decay of pear trees grafted on the quince; for it has been often, very often, urged as an objection to the use of the quince stock, that pears grafted on it, are, although prolific, but very short lived. I have seen trees in France more than fifty years old, and those above referred to may be adduced to confute this error. My object is to improve the culture of fruit trees in small gardens, and to those conversant with such matters, I need only point to the very numerous instances of rich garden ground, entirely ruined by being shaded by large spreading standard, or half-standard unpruned fruit trees. Now, by cultivating pyramidal pears on the quince—apples in the same form on the paradise stock—the cherry as dwarf bushes on the *Cerasus Mahaleb*—and the plum as a pyramidal tree—scarcely any ground is shaded, and more abundant crops and finer fruit will be obtained.

* A correspondent in *Gardener's Chronicle*, No. 42, 1848, recommends stripping off the leaves from these shoots during summer to within three or four buds of their base. This seems to me an excellent idea.

ROOT PRUNING OF PEAR TREES ON QUINCE STOCKS.

Before entering on the subject of root pruning of pear trees on quince stocks, I must premise that handsome and fertile pyramids, more particularly of some free bearing varieties, may be reared without this annual, biennial, or triennial operation. I have a large plantation of pear trees on the quince stock, which bid fair to make very handsome and fertile pyramids, yet they have not been root-pruned, neither do I intend to prune them; but I wish to impress upon my readers, that my principal object is to make trees fit for small gardens, and to instruct those who are not blessed with a large garden, how to keep their trees "in hand," and this can best be done by *annual* attention to their roots, for if a tree is suffered to grow two, three, or more years, and then root pruned, it will receive a check if the spring be dry, and the crop of fruit for one season will be jeopardized; therefore, those who are disinclined to the annual operation, and yet wish to confine the growth of their trees within limited bounds by root pruning—say once in three years—should only operate upon one-third of their trees in one season; they will thus have two-thirds in an unchecked bearing state, and those who have ample room and space, may summer pinch their pyramids, and suffer them to grow to a height of fifteen or twenty feet without pruning their roots. I have seen avenues of such trees in Belgium really quite imposing.

Pyramidal pear trees on the quince stock, where the fruit garden is small, and the real gardening artist feels pleasure in keeping them in a healthy and fruitful state, by perfect control over the roots, should be operated upon as follows: A trench should be dug round the tree, about eighteen inches from its stem, every autumn, just after the

fruit is gathered, if the soil be sufficiently moist; if not, it will be better to wait till the usual autumnal rains have fallen; the roots carefully examined, those inclined to perpendicular growth cut with the spade, which must be introduced quite under the tree to meet on all sides, so that no root can possibly escape amputation, and all the horizontal roots, except those that are *very small and fibrous* shortened with the knife to within a circle of eighteen inches from the stem,* and all brought as near to the surface as possible, filling in the trench with compost for the roots to rest on; the trench may then be filled with the compost; well rotted dung and the mould from an old hot-bed, equal parts, will answer exceedingly well; the surface should then be covered with some half rotted dung, and the roots left till the following autumn brings its annual care. It may be found that after a few years of root pruning, the circumferential mass of fibres will have become too much matted, and that some of the roots are bare of fibres towards the stem of the tree; in such cases, thin out some of the roots, shortening them at nine inches or one foot from the stem, this will cause them to give out fibres, so that the entire circle of three feet or more round the tree is full of fibrous roots near the surface, waiting with open mouths for the nourishment annually given to them by surface dressings and liquid manure.

Thus far for the gardener who does not mind extra trouble, who, in short, feels real pleasure in every operation that tends to attain his end; but it is not every amateur gardener that can do this, nor is it always required, except for small gardens and in rich moist soils, but with our too often cool moist summers in the northern counties,

annual root pruning is quite necessary to make the trees produce well ripened wood; in other cases, as I have before observed, shortening the shoots in summer, taking care to produce a handsome pyramidal form, and if they are inclined to grow vigorously, occasional (say biennial or triennial) root pruning with the spade will be quite sufficient.

I may now be permitted to point out selections of pears for different situations, and commence with those adapted for pyramidal trees on quince stocks. These may be planted in rows, five to six feet apart, or a square may be allotted to them, giving each plant five to six feet, which will be found amply sufficient for root pruned trees. Some few esteemed sorts of pears do not grow well on quince stocks, unless "double-worked," *i. e.*, some free growing sorts are budded on the quince, and after having been suffered to grow for one or two seasons, those not so free growing are budded on them. For twelve varieties as pyramidal pears on the quince stock, placed in the order of their ripening, the under-mentioned may with safety be recommended* (in the following lists, varieties marked thus X, may be chosen by those who require only a few trees.)

1. Doyenne d'Ete,..... July
2. Jagonelle X,..... August
3. Bon Chretien, (Williams'), September
4. Beurre d'Amalis X,..... s. September
5. Van Mons Leon le Clerc,..... b. October
6. Louise Bonne of Jersey X,..... m. & c. October
7. Beurre Diel,..... November
8. Glout Morceau,..... December
9. Passe Colmar X,..... c. December
10. Orpheline d'Englein X,..... January and Feb.
11. Josephine de Malines,..... March
12. Susette de Bavay X,..... April and May

For twenty-four, add—

13. Citron des Carmes,..... s. July
14. Beurre Giffart,..... August
15. Beurre Andusson,..... September
16. Doyenne White,..... b. October
17. Doyenne Gris,..... c. October
18. Duchesse d'Angouleme, ... b. November
19. Urbaniste,..... c. November
20. Winter Nelis,..... December
21. Beurre Languelier,..... January

* If they have not spread to this extent the first season, or even the second, they need not be pruned, but merely brought to the surface and spread out.

* All the varieties recommended for pyramids, may also be planted as Espaliers to train to rails in the usual mode.

22. Vicar of Winkfield,.....	February
23. Beurre Easter,.....	March
24. Beurre Rance,.....	April and May

The above, with the exception of 24, which grows well, but does not form a handsome tree, succeed on the quince, and form well shaped, excellent pyramids. No. 10 is the Orpheline d'Enghein of Belgium, the Soldat Labourer of France, the Beurre d'Aremberg of most of the collections in England. The true Beurre d'Aremberg, which I have for some years possessed, and which I have again lately received from Belgium, from the garden of the Duc d'Aremberg, is of the same race, but the

tree is more thorny; it has smaller and narrower leaves, and its fruit is rather smaller; it is a good pear, but certainly a little inferior to No. 10.

No. 22 is a large second rate pear from walls, or from trees on pear stocks; from pyramids on the quince here it is not large, but high coloured, and really an excellent late pear; the tree also is very hardy and bears abundantly. It is very difficult to fix the exact season for the ripening of different pears, they vary so much in different soils and different seasons.* The above will, I think, approach to correctness.

DESIGN FOR A SMALL VILLA IN THE TUSCAN STYLE.

THE style of this villa is bold and massive, after the manner of the Tuscan compositions.

Perhaps, indeed, the entrance front, shown in our *frontispiece*, may be considered almost too severe in its character,—a fault better, and much more easily remedied than the contrary extreme, too often seen, of excessive flimsiness and filagree ornament. To give the front a more domestic expression, it would, perhaps, be sufficient merely to add Venetian blind shutters, which are in good keeping with the Tuscan style; or the Tuscan balcony and overhanging window canopy, may be added to the principal windows, which will at once give a cheerful and lively effect to the exterior.

The other side of this house is spanned by a veranda, 10 feet wide, which gives it a most comfortable and home-like character.

This house is designed for one of those situations common in this country, where the entrance front is opposite to the river

or the finest reach of landscape. The drawing-room and the veranda are ac-

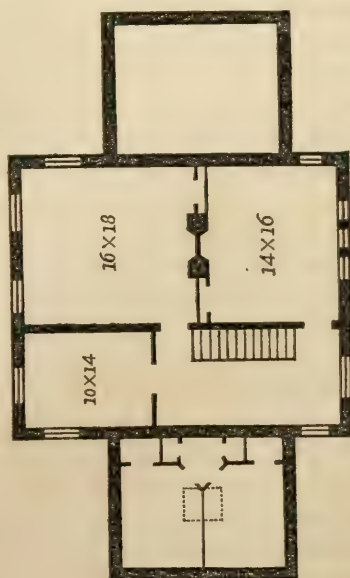
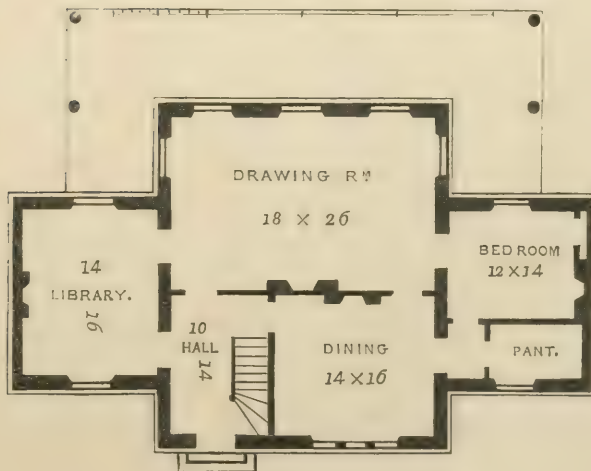


Fig. 68.—Second Floor.

* In 1847, all my late winter pears, such as Winter Nelis, Beurre d'Aremberg, Passe Colmar, &c. &c., ripened in October and November.



A VILLA IN THE TUSCAN STYLE.



PRINCIPAL FLOOR.

Hort. July, 1840

cordingly placed on the side of the house opposite to that which contains the entrance or front door.

The plan of the principal floor, sufficiently explains itself. The large and handsome drawing-room,—far better in effect than two rooms, connected by sliding doors, is the summer apartment; while the rest of this plan gives the ordinary accommodation of the family. The rooms in this story are 13 feet high.

The second story, fig. 68, shows only a moderate bed-room accommodation,—the

wings being only one story high. By treating these wings, however, as we have indicated in the left-hand wing of fig. 68, that is, lighting them with a sky-light in the roof, two more low bed-rooms may be had in each wing.

This plan is designed for a piece of sloping ground, where the surface on the veranda side falls off rapidly enough to allow of kitchen and other necessary basement apartments on that side of the house, almost wholly out of ground, and yet in the basement.

ON THE CULTURE OF THE AURICULA.

BY R. B. LEUCHARS, NEW-HAVEN, CT.

THERE is scarcely any class of florist flowers that possess so much real interesting attractiveness as the Auriculas; and I will venture to say that there is no class, possessing equal claims to our notice, that are so little cultivated, and their cultivation so little understood.

There are many gardeners who are thoroughly proficient in every branch of practical gardening, and are, nevertheless, very deficient in knowledge of those subjects, which have, by dint of care, culture and hybridization, been drawn gradually out of their natural and simple state into objects of astonishing loveliness. Some of these have been so much improved by artificial means, as to render the original species, pretty as they are in their natural wildness, poor and worthless by comparison. The original colours of the corolla are yellow and purple, with a mealy-like dust on the upper surface, which contributes greatly to their beauty. The culture of Auriculas is carried to a great height in England, where some collections contain upwards of 500

distinct varieties,—consisting of selfs, or one coloured flowers, of double flowers, and of painted or spotted flowers; of which latter division I will chiefly treat, as being those that are more especially esteemed by florists. The same culture, however, is applicable to the whole genus.

GROWING THEM FROM SEED.—Seedlings are raised for the purposes of procuring *cross-breeds* and new varieties. The seeds should be well ripened, and collected only from the most approved sorts. Sow them in pots or boxes, in a compost of leaf mould and sand, thoroughly mixed and sifted. Place two or three inches of drainage in the bottom, a little moss over it; fill with the compost to within half an inch of the rim, and cover the seeds about a quarter of an inch deep; place into a warm frame, if you have it, or under a hand glass. They will quickly germinate; and as soon as they are large enough to be removed from the seed pot, prick them separately into others, one inch apart. In about a month more, they will be large enough

for potting singly into 3-inch pots. Keep them now into a frame, but give plenty of air, and shade them from the mid-day sun. As they advance in growth, shift them again into 4-inch pots, with a compost of one-half decayed turf, one-half leaf mould, adding a small quantity of cow-dung and sand,—all well mixed together, but not sifted. Place them on a dry bottom, on coal ashes or slates; the latter are preferable, as they prevent the ingress of worms, which must be strictly guarded against. The frame in which they are placed should stand with its sloping side northwards. Many of them will flower the first season; and those that are deemed worth cultivating may be retained, and the rejected ones planted in the open borders or thrown away.

The best time for sowing the seed is the beginning of January, if you have any suitable place to put them in, such as a green-house or conservatory. By this early sowing, I have found most of them to flower the same season, which is of great importance to the impatient grower.

PROPAGATION BY DIVIDING THE ROOTS.—This ought to be done when the plants are done flowering, and after their beauty is past. Then no time should be lost in doing it. Choose all the healthiest side shoots from the old plants; pot them in 3-inch pots, in a compost of equal portions of turfy loam, leaf mould, and cow-dung,—the latter not less than two years old. Care should be taken, in separating the side shoots from the old plants, not to break off any young roots that may be attached to them. Keep them rather close and shaded for a week or ten days; and when they begin to grow, give them plenty of air night and day.

PROPAGATION BY OFFSETS, WITHOUT ROOTS.
—All offsets that have been taken from

the old plants without roots, should be potted in 4-inch pots, in equal parts of turfy loam, peat earth, and leaf mould, and about one-half part sand. No dung ought to be used. Place three or four in a pot, putting them in close to the side of the pot, and fastening them tightly with the thumb, to prevent them from being shaken out of the soil. They will strike freely under hand-glasses. When rooted, shift them into single pots, into a compost as directed in the preceding paragraph.

TREATMENT OF OLD PLANTS.—When the old plants have done flowering, and the side shoots are taken off, they should be placed in a cool airy situation to ripen their seeds, which must be picked as it grows in the capsules, and preserved in them till the sowing season.

About the beginning of August they should be all-repotted into fresh compost. If deferred later, they seldom flower so well. Use the compost before recommended, with the addition of a little pigeon-dung, if procurable. The pots generally used by the English growers are from four to six inches deep; and those sizes are considered sufficient to grow the largest plants. Many growers greatly err in over-potting Auriculas, and also in shaking them entirely out of the soil in which they have been growing. Young plants that require shifting into larger pots, should have only a small portion of the soil taken from their roots. Those of older growth require to have more taken away—the main root examined, and cut back if necessary. If any of the plants appear diseased, they must be shaken entirely out of the soil. In cases of canker, the knife must be resorted to as the only remedy; cut the decayed part clean away, and put the plant in a smaller pot. I may here observe that two methods of potting are re-

quisite. If the plants are intended exclusively for fine blooms, they ought to be potted rather deeply, quite up to the neck of the foliage. Those intended for propagation should have a larger portion of the stems exposed, to induce them to throw out side shoots after potting. The plants should be placed in a northern aspect, where they may remain until taken into their winter quarters.

WINTERING THE PLANTS.—The Auricula is not at all particular about where it is put in winter, providing you keep it from damp, and from every severe frost. A shelf in a green-house, verandah, window, or even in a cellar, will do. I have known ladies keep a considerable number of Auriculas in a common room. They will bear a good many degrees of frost, if kept dry; but *damp* is their deadly enemy. A cold pit is the very place for them. Put them on shelves close to the glass, or not more than six inches from it; and let them have abundance of free air every fine day. Pick off all damp and decayed leaves from the plants as they appear. Cover the lights with mats, litter, or straw, to protect them from severe frost; but uncover them every favorable opportunity to admit light and air.

About the beginning of February, a mild day should be selected for top-dressing and examining the roots. Turn out every one, and see that the drainage is perfect; remove about an inch from the surface, and replace it in the same pot. Cut away every offset that appears likely to draw off any nourishment from the main plant. Fill around with the prepared compost, so that the lower leaves will rest upon the soil. They must now get plenty of air and light, and be regularly supplied with water; but guard against saturation, as the flower stems appear. If you wish fine

blooms, let only one stem remain on each plant, as they advance towards blooming. They should be fully exposed to the air, but have a screen put over them, to protect them from the dashing rains and mid-day sun; for the farinaceous powder upon the petals, which now adds so much to their beauty, is easily washed off. When they have done blooming, submit them to the same routine of culture which I have before recommended.

The Auricula is very subject to attacks of the slug and the weevil, and sometimes of the green fly. The last is easily destroyed by fumigating with tobacco; and the two former by continual picking when they appear. They are also liable to ulceration and canker in the root, especially when kept too wet. When any plant presents a yellow, sickly appearance, take it out and examine its root, and you will soon discover the cause of its unhealthiness.

PROPERTIES OF A GOOD AURICULA.—An Auricula, to be of the first rank in the estimation of the florist, should possess the following characteristics of excellence:

The plant itself should be well grown; the leaves of a dark green colour, protruding over the edge of the pot. They ought to dip gradually towards the point of the leaf, but not recurved.

The stem should be strong, erect, and elastic, of sufficient height to carry the truss above the foliage. Every flower stem should be of a length proportioned to the size and quantity of the pips. It must be strong enough to bear the head without any assistance, sticks, &c., as they disfigure the plants greatly, as well as lacerate the roots.

The footstalk of the pips should also be strong and elastic, and long enough to allow the flowers to expand without overlapping each other.

The head or truss should be of a compact globular form, containing not less than seven fully expanded flowers, each flower being the same size, and possessing the same properties.

The tube, or centre, should be perfectly round, of a rich yellow colour. The anthers should be bold, and fill the tube well. The tube should terminate rather above the eye. The eye should form a perfect circle of pure white; clean on its edges, free from blemishes, and quite distinct from the ground colour.

The ground colour should be bold and rich, forming a perfect circle round the eye. A dark purple, or a brown, contrasting well with the eye, and forming a band all around it. It ought to join this margin with a regular, feathery edge, equal all round, but never running into the colours of the rim or margin.

The margin, or outer circle, should be a

dark green or gray. The breadth of this should be in proportion to the ground colour, as the ground and the margin form the principal attraction of the flower. They ought to be well contrasted, and of an equal width,—each circle occupying half the diameter of the corolla.

Those flowers having a dark purple, or bright red, or scarlet, or deep crimson ground, are universally considered as the finest flowers. Yet, the flowers may possess some of these colours, and otherwise be very imperfect. Flowers possessing these colours, however, although not equal to this criterion, are frequently very pretty, and are generally much admired; and what *every* one admires, I hardly think we are justified in condemning, by a rigid adherence to any standard of floral judgment.

ROBT LEUCHARS,

Gardener to Professor Silliman, jr.

New-Haven, Conn., June, 1849.

EXPERIENCES IN ORCHARD FRUIT CULTURE.

BY L. F. ALLEN, BUFFALO, N. Y.

EDITOR OF THE HORTICULTURIST—In perusing the many articles which have appeared in your journal, on the cultivation of the different varieties of fruits, and the modes and results of such cultivation, I find myself frequently at fault in drawing my conclusions of the utility of the methods of cultivation, and varieties of fruit, adapted, by the entire lack of information as to the particular locality, climate, altitude, and soils of the places where such fruits are cultivated; and so widely do these different elements, which enter into the fruit culture of the United States, influence them, that I can find little satisfactory data for my own government from the re-

corded experience, or opinions of others. On comparing notes with pomologists from the different states, and from different parts of each state, we find that individual opinions also vary greatly as to the relative value and quality of different varieties in all our fruits, the causes of which, one is altogether unable to reconcile, without a distinct knowledge of the above named accessories, which so largely influence their production. A desideratum of this kind should enter into the discussions of all pomological meetings and conventions, because without the attendant influences of soil, climate, locality, and altitude, being distinctly understood, any decisions or re-

commendations made at such meetings, as to the best fruits, or their *particular* modes of cultivation, other than those of the most general nature, which must be pursued under all circumstances, will be of little avail in guiding the neophyte in his proposed enterprises of fruit growing.

As I have dabbled a little in fruit cultivation from boyhood, and, so far as the fruits themselves were concerned, with considerable success, I propose to relate to you somewhat of my own experience and views upon some branches of fruit culture, not in exact order, probably, but in such manner as what I have done can be understood; and from the results of which,—if there ever be any results worthy of observation,—a conclusion may be drawn for the government of others, who may wish to follow. But as I have not *all* the accessories of soil, in which our fruits are grown, I can only speak of those which I have cultivated, and therefore can only tell one side of the story,—leaving it for others, whose practice has been different, to relate theirs.

Within the last five years, I have been laying the foundation for rather an extensive orchard of fruits, for this region; and having the proper soils at command, have already planted several thousand trees of apples, pears, quinces, cherries, plums, and peaches, in about the following proportions:

Apples,	2,000	Cherries,	400
Pears,	1,000	Plums,	300
Quinces,	600	Peaches,	200

To commence, my farm is level, table land, on the upper or south point of Grand Island, in the Niagara river, in the state of New-York, about six miles north of Buffalo and the outlet of Lake Erie, and three miles below Black Rock; latitude 42° 53' N. Soil, the "Onondaga salt group," of the New-York state geologists,—a "secondary" formation, based on limestone,—

mostly a clayey loam, generally known *here* as a *limestone* soil,—the same which I presume you term a "strong loam," with a subsoil at about a foot depth below the surface, of stiff reddish clay; dry, yet fertile and strong, in all the elements for the growth of wheat and other cereal grains, Indian corn, esculent roots, and grass; mostly free of boulders and small stones, which occur but occasionally.

The original timber is white, black and red oak, white and black ash, hickory of various kinds, elm, basswood or linden, sugar and white maple, beech, with many other varieties; but those named chiefly prevailing. Altitude, 540 feet above tide water at Albany. Thermometer ranging from zero, seldom but sometimes to two degrees below it in winter; up to 85°, and, but very seldom, to 90° of Fah. in summer. Surrounded by water, our fruits are hardly ever cut off by spring frosts, which is common to all the lake region. Nights, influenced somewhat by the breezes of Lake Erie; rather cooler in summer than the country a few miles east of us, and some five or six degrees cooler than at Lewiston, twenty-five miles north, and the country extending east and west of that point, lying below the "mountain ridge," or Lake Ontario basin, below the Falls of Niagara, in which lies Rochester, and the fine fruit region of the *lower* Genesee Valley.

Such is this position, near the northern limit of the luxuriant fruit growing *zone* of the northern states; a section—if you will permit me for a moment to digress from the main subject—which, taken altogether, is probably the best for the perfect production of *all* their varieties, in *open* culture, of apples, pears, quinces, cherries, plums, *peaches*, grapes and melons, and the small fruits; including *all* its accessories of absence of early and late frosts, regular bearing, growth

of tree, ease of cultivation, and excellence of flavor, in the United States; the "great lake country," south of a line drawn west from the head of Lake Ontario, and east as far as Oswego. The reason of this I shall not attempt to explain, other than the influences of such large bodies of fresh water; but that such is the fact, all experience agrees in the entire success which has thus far attended fruit cultivation, while the greatest efforts which have been made to produce the *best fruits in wide variety*, even but a few miles south of the lake basins, upon the high lands, which furnish the sources of the waters of the Mississippi valley, have failed altogether in the comparison. On this subject, by the way, I beg to refer you to a communication from Mr. SPRINGER; I believe it is on fruit cultivation, in the *Transactions of the Board of Agriculture* of the state of Ohio, for 1843. This assertion, I am aware, is a broad and sweeping one, and will probably challenge the attention of many prominent and experienced pomologists of our country. But, "come one, come all," to an exhibition of our northern fruits, then in season, at the Syracuse State Agricultural Exhibition, on 12th September next, where the North American Pomological Convention is to hold its next session; and we fear not to abide the result of a contest.

But, to the main subject. I say that my soil is *mostly* a clayey loam. It is so; yet the top soil varies somewhat in its composition,—running from a vegetable mould into gravelly, and occasionally a sandy loam, all intermixed more or less with clay; the latter greatly predominating, and, in the long run, by far the richest in promoting the *mature* growth of the tree, but not always the *quickest* in pushing forward the young trees,—premising, always, that the ground be divested of surplus, or stand-

ing water, by proper draining; a plough furrow usually answering the purposes of mine.

During the past five years, I have set out in orchard about 1000 apples, and have about 1000 more left in my nursery, now about fit for planting, and which I purpose to plant out within the next two years.* As I design growing for market chiefly, a large variety is not my object. I preferred to select such standard fruits as I know thrive well in this locality, and pay my chief attention to them. I have, however, upwards of thirty varieties altogether, indulging the amateur only in a small way. My standard varieties are chiefly thus: *Early apples*—Yellow Harvest, Williams' Favorite, Early Joe, Sweet or Large Yellow Bough, Golden Sweeting. *Fall apples*—Fall Pippin, Gravenstein, Jersey Sweeting, Rambo, English Belle Bonne. *Winter apples*—Baldwin, Yellow Bellefleur, Hubbardston Nonsuch, Newtown Pippin, Northern Spy, Herefordshire Pearmain, Pomme Gris, Rhode Island Greening, American Golden Russet, English Russet, Roxbury Russet, Swaar, Ladies Sweeting, Talmans Sweeting, Esopus Spitzenberg, Vanderveer, Westfield Seek-no-further. Several of the above, however, I have in small number,—twenty varieties comprising the bulk of the trees, which all flourish and succeed well in this region. The great fault of our market fruit-growers is their proneness to run into too many varieties; a few, on which the public taste is settled, when of decidedly good quality, being altogether the most profitable.

A word upon apple planting, and subsequent cultivation: The orchard ground should be well cultivated, and in good *crop-bearing* condition before the trees are

* I grow my own apple, quince, and plum trees; opportunity being had a few years ago to try a large lot of seedlings, which I preferred to transplant into my own grounds, and graft with kinds of my own selection.

planted. In digging the holes, which I always have, at least, three feet in diameter and two rods apart, I do not *dig up* the clay subsoil.* I barely *loosen* it with the spade or pick, as the case may be, and set the trees above it; and if the hole be not deep enough, which is seldom the case, I make a mound around the tree, three, four, five, or six feet broad, as circumstances require; and the young tree goes on rejoicing. As soon after planting as practicable, I seed the orchard down into grass; and for this reason, I never can make my men protect the trees in ploughing and putting in the crops, unless a *professional* orchardist, or *myself*, is with them *all* the time. The first I cannot get at such seasons,—as it is always the busiest time with them, and cannot always attend to it myself; and as all ploughmen instinctively hate a tree, the poor things are sure, more or less of them, to be torn up, or barked and stripped to death at every successive turning up of the soil; and tell them as much as you will to be careful, your back is hardly turned, before the plough is entangled in a young tree, or the harrow is driven remorselessly over it, and years of pains and solicitude are sacrificed. Besides, all cereal grains are poison to fruit trees, [by robbing the soil of inorganic manures. ED.] And I lay the orchard at once into grass, and dig with spade and fork around the trees for two, three, or four feet each way from the stem, and manure them as they progress. Thus they go on vigorously until past danger from the plough, when it may be applied *occasionally* to great benefit, *with a good coat of manure on the soil*. Many years of observation have convinced me of the superiority of

such treatment. When past liability to injury from their size, pasturage by horses, swine, calves, and even grown cattle may be permitted; but the latter are seldom to be tolerated. Swine, however, are *always* good for an orchard,—destroying the vermin, and rooting up the soil. I know several luxuriant orchards which were *never* ploughed since the trees were set, and succeeding better than those in grain cultivation,—setting aside the damage by plough and harrow.

From all the observation I have made, were I to select the best soil for an apple orchard, it should be a deep, strong, clayey loam, intermixed slightly with gravel, over a clay limestone subsoil. I know several orchards, planted on a light sandy loam, in the immediate vicinity of those on clayey loam; and those on the light soil, at twenty-five or thirty years old, were worn out in a premature old age, while the heavy soiled orchards were in vigorous maturity. Trees which I planted five years since, have already produced considerable crops of fruit, and promise abundantly the coming season.

PEARS.—About ten years ago, I sent an order to an eastern nurseryman, of large reputation and experience, for 50 to 100 pear trees of the best kinds for table and general cultivation. The order was answered with the trees in due season, accompanied by a catalogue of high sounding names,—English, French, and others. The trees were well grown and healthy; and I have no doubt, being a gentleman of integrity, that the nurseryman meant to do me justice in his selections. I set them out in my home grounds near the house, when, after a few years, they bore fruit. The kinds were as follows,—all on pear stocks:

Beurré d'Aremberg, Louise Bonne de Jersey, Princes St. Germain, Marie Louise,

* I have had occasion to remove some trees, six or eight inches in diameter, that had been planted over this subsoil of stiff clay, and found the strongest and largest roots had penetrated into it three and four feet deep. [Is not this because it is a calcareous, and not an argillaceous clay? ED.]

Autumn Bergamot, Swan's Egg, Brown Beurré, Jargonelle, Summer Bergamot—small, Summer Bergamot—large; and two other kinds of approved *nursery* variety.

These trees were planted in a strong clay soil, well drained and rich, which, in this region, I consider among the very best for pear cultivation. On trial, they proved as follows:

Beurré d'Aremberg proved to be the Glout Morceaux,—the *best* winter pear I know; a strong, vigorous growing tree; a great, and *annual* bearer; and true to that variety, as described in Downing's book of fruits.

Louise Bonne de Jersey, true to its name, and every way a most desirable fruit; a great bearer; the tree of moderate growth, but upright and handsome.

Princes St. Germain, true to its description, but worthless in my grounds,—never getting ripe, nor eatable. After three years' trial in bearing, I headed the trees down, and grafted with the Bartlett, Glout Morceau, and White Doyenné.

Marie Louise, true to its kind,—some years very fine, others indifferent. A bad grower,—throwing itself into all shapes but a good one. So far, I have tolerated it, but may yet head them down and re-graft. Were I to plant anew, I should not plant it among my selections.

Autumn Bergamot, true to its kind; a good grower and great bearer, but worthless. Headed the trees all down, and inserted better kinds.

Swan's Egg, ditto, with the exception of being an indifferent bearer.

Brown Beurré, true; some of the trees bear most splendid fruit,—Golden Russet in colour; melting, vinous, juicy, and delicious; some seasons rather better than others. Some of the trees do not bear quite so good fruit, although in same soil

and situation, as the others—don't know why. I would cultivate the Brown Beurré in my collection, although not largely. When in perfection, they are almost equal to the Doyenné or Virgalieu.

Jargonelle, true, but worthless. Headed down and grafted it with Winter Nelis.

Summer Bergamot—large and small—true; the trees good growers, but the fruit inferior. Thus far, tolerated them; but intend heading them down and re-grafting.

Thus ends my ten varieties of *best* pears. Two out of the whole proved first rate; a third, sometimes good, and again but tolerably so.

This, however, is but a prelude to what I am coming at. Last year I had prepared a piece of ground for 1000 pear trees. About half of them I resolved to plant on quince stocks as dwarfs; the remainder on pear stocks. You may perhaps have had a *suspicion*, if not the *knowledge*, that there has been, for some few years past, something of a pear mania infesting our country, and trees have in consequence got rather high in price. No matter for that. I found a man who had trees to my mind, and wanted to get rid of them at fair prices. So, a year ago, I ordered 500 trees, one-half of each kind, dwarf on quince, and standard on pear stocks. The kinds were of numerous French and Flemish varieties, of *celebrated* kinds, praised in the books—Van Mons, and others. I named the kinds I wanted, but only a *few* of them were to be had; but "*better*" kinds were offered in place; and as they were well grown and good stocks, and *stocks* were what I chiefly wanted on which to put my selected sorts, I took them. Now, I shall take no pride in showing two, three, or four hundred varieties, four-fifths of which are worthless; and if I can select a dozen kinds, which I *know* to be good beyond a question, I will

be content. Thus, I received the trees, planted them out on "lands," as the ploughmen call it, twelve feet wide, with a deep, dead furrow between; which, of course, throws the soil into ridges, with an eastern exposure, on a slight declination, carrying the surface water all one way to the foot of the orchard. The soil is a clayey loam, on a clay subsoil, as before described, with a portion of iron ore intermixed in the soil, and occasionally found in minute lumps, like gravel, which, by the way, I do believe, from observations of my own, and the remarks of others in this journal and elsewhere, to prevent, in a great measure, the "fire-blight." At all events, there is none; nor has there, to my knowledge of more than twenty years, been any fire-blight in this immediate section, although it rages about Lewiston, below the "Mountain Ridge," on the "Clinton Group" soils, to an almost fatal extent, where there is little or no iron detected in the soil. How all this is to eventuate, time must prove. I speak only from observation. The pear orchard is, on my farm, where there are a few trees of many years' growth, vigorous and healthy.

The dwarfs on quince I planted twelve feet apart, on the crown of the ridges, or "lands." The standards on pear stocks I planted continuously in rows with the dwarfs, every alternate twelve feet, so that they stand in quincunx form, twenty-four feet apart on the "lands," yet but eighteen feet apart in quincunx,—too near perhaps; but 'twill be many years before they get too close, when the smaller growing trees are intermixed with the larger. Of course, they are only one-half in number on the same area of ground to the dwarfs. The trees were all planted in good, well ploughed, pulverized ground; and all the trees that were sound and healthy when planted,

succeeded finely. In parenthesis, I will remark, for the benefit of those who propose future planting, that the quince stocks did *better* than the pear stocks; for the reason, that the former has a more fibrous root, and the test was in examination. Owing to an error in the measure, by which a part of the planting was done, some of the trees were sadly out of line; and in filling up the ground the past spring, I had to take up and remove several of the most vigorous, which had made a growth of one to three feet of new wood last year,—the same season they were planted. To remove them, I placed a man with a spade on each side, and myself, with the stock in hand, drew up the tree as they pried it out of its bed. It took a strong pry on the spades, and a vigorous pull with my own arms to get them out. So luxuriantly had the roots penetrated, and that too into the heavy red clay subsoil at the bottom. The pear stocks, however, grew well, but did not make equal growth to the quinces. The past spring I obtained another 500 trees, of like kinds, and planted the remainder of my pear orchard. The ground was cultivated last year in Indian corn and roots. This year it will be sowed in buckwheat, and seeded down to grass; the future cultivation of the trees to be as already mentioned with the apples.

I am now about to relate what many may consider as an act of great Vandalism; but which, nevertheless, I have acted upon, after mature thought, and all the investigation of authorities which I have been able to command,—and that is, to cut off three-fourths at least of these *celebrated* kinds of pear that I have planted, and re-graft them with other varieties of my own selection. I want to cultivate *market* fruits, of decided merit and reputation; for I am not disposed to convince the public against

their will, that a new fruit is better than an old one, merely because it is new, when the old one is really excellent. On this I must tell you a story, and a *true* one. Two gentlemen residing in our fine Genesee fruit region, last fall sent, each, several barrels of Virgalieu pears to New-York to be sold. One of them called his pears the "Virgalieu," the only name *he* knew; the other, to be precise, marked his "White Doyenné." In a few weeks, the consignee returned an account of sales. The Virgalieus brought \$12 a barrel; the White Doyennés \$6. The seller gravely remarking, that they were both fine specimens of pear; but if the owner of the White Doyennés had only sent his Virgalieus as his neighbor did, he could have sold them for just as much! So much for a name; and much more for an ignoramus, to sell it! The story may pass for what it is worth.

As in apples, experience having proved that decidedly the best we have, for all uses, are chiefly of American origin, so it may eventually be with pears; and my own opinion is, that we shall ultimately produce such varieties as may, with a *few exceptions*, supersede the foreign varieties now cultivated here. In excellence of quality, the Virgalieus, or Doyennés—White and Grey, (and the latter I consider of the highest flavor,) are in general reputation unrivalled in the United States. None so popular pears have yet been produced; nor is any variety more successfully grown in western New-York, than these; and as other varieties approximate to the Virgalieus in quality, so is the excellence of such varieties estimated by all good fruit tasters. And in their season, which, with care, can be extended to quite two months, no pear will compete with them on equal terms; and although they may temporarily fail on the seaboard, from some as yet un-

explained cause, they may succeed as long and as well in the interior as any others. With the exception of these, no foreign variety exceeds in flavor the *best* of our summer and autumn pears. For instance, the Osband's Summer, the Bloodgood, Onondaga, Stevens' Genesee, Washington, and Seckels, which, with the Bartlett, Glout Morceau, and Winter Nelis, (Virgalieus included,) comprises a circle of pears for summer, autumn and winter, that leave little to be desired by the lovers of good fruits.

If to these be added a few other varieties of *select* pears, of American origin, all that the most fastidious amateur can desire, in point of flavor and appearance, will be comprised.

A word upon American, as compared with foreign pears: Our native pears almost without exception, are hardy, strong growers, and profuse bearers; while many of the choicest of the European varieties are not so, requiring great care and cultivation to produce them in perfection, and in frequent instances a failure at that,—owing, probably, to a change of climate and soil, to which they are constitutionally indisposed to assimilate. Still, when a foreign variety is of unquestionable excellence, and of free growth, and prolific bearing, I would by all means, to the extent required of such variety, cultivate them.

It is in accordance with such opinions—a certainty for uncertainty—that I have resolved to cut down my 70 or 80 varieties, with very few and well proved exceptions, and replace them with sorts which have been long cultivated, and are certain in their production, and acceptable to the consumer. Those planted last year are already re-grafted; and those of this year's setting out, I propose to head down and

re-graft next year. My selection is principally as follows:

For early use—Osband's Summer, (see Horticulturist, vol. 1, pp. 211 and 212, a most beautiful and delicious pear in western N. Y.,) Madeleine, Bloodgood, Bartlett.

Autumn—Stevens' Genesee, Onondaga, Washington, Louise Bonne de Jersey, White and Grey Doyenné, Duchess d'Angouleme, Beurré Diel, Seckel, Columbia.

Winter—Glout Morceau, Winter Nelis.*

Now, here are sixteen varieties of pear, all proved of the first quality, and ripening in succession from July to February,—enough, in all conscience, to satisfy any appetite, be it ever so choice and fastidious. By way of amusement, I may also reserve for cultivation some of the varieties I now have, such as the Beurré Bosc, Brown Beurré, Beurré d'Amanlis, Van Mons Leon Le Clerc, Flemish Beauty, Fondante d'Automne, Jaminette, Urbaniste, and perhaps now and then another, merely to prove their quality in this locality. The strong, thrifty growing American pears I graft on the pear stocks. The more delicate European varieties are put on the quinces,—by this means, "double-worked;" in which, if there be any advantage, I have it. These latter I insert at about eighteen inches or two feet above the ground, (the original budding having been done near the surface,) so as to throw out the branches low for training. The pear stocks I graft at the best place for such purpose, below where the top is to be formed.

QUINCES.—I cultivate only the orange (or apple) quince; that proving the hardiest, most productive and best for this locality. I plant $16\frac{1}{2}$ feet apart. The soil is a moist, rich, clay loam, or clay subsoil, well drained.

* Winter Nelis is a bad grower,—the shoots being too flexible and drooping. It may answer for the quince stock, but not strong and vigorous enough for the pear.

CHERRIES.—I confine these to a dozen varieties; at the head of which I place the Black Tartarian, and follow with the May Duke, Holman's or Late Duke, Black Eagle, Bigarreau or Yellow Spanish, Elkhorn, White Bigarreau, China Bigarreau, American Heart, Fellow's Seedling, Black Heart, American Amber. The soil for these is a deep, rich, dark, sandy loam, on a mixed clay and sandy subsoil, dry and elevated. I plant 24 to 33 feet apart. But cherries will flourish and bear well, as I have tried, on a stiff clay, if *well drained*, but not equal to those on a sandy loam.

PEACHES.—The names of these—and good ones too—is legion. A dozen varieties are sufficient for succession. Soil clayey, sandy, or gravelly loam, on a *dry* subsoil; no matter whether clay, sand, or gravel. All grow well with me, but better a few miles farther east and north, beyond the influence of the lake winds. I plant $16\frac{1}{2}$ feet apart.

Other influences in my favor for growing fruits are a *new* soil, but recently cleared from the forest, water communication all the way from orchard to market.

Now, is here not a large dish of gossip, to serve up to your readers, which, if they have patience to read, may give a practical hint or two, drawn from my own, and the experience of the best pomologists in this immediate vicinity? I shall be pleased to see your remarks on any part of this communication. Very truly yours,

LEWIS F. ALLEN.

Black Rock, June 1, 1849.

P. S. Our season is very late; a fortnight, at least, beyond the usual time. The promise of fruit, however, is very abundant. Rarely have I known finer bloom on the trees; and the weather, though cool, is favorable to the setting of the young fruits.

FOREIGN NOTICES.

FOREIGN MARKET FRUITS—We are under much obligation to Mr. RIVERS for the following interesting and valuable notes on fruits, which have proved valuable for general cultivation.—Ed.

Rivers' Early Prolific Plum.—(Rivers Early, No. 2.) Our plums failed last year, so that I have nothing new to record. But I ought to except my seedling—No. 2—or *Early Prolific*. This plum *always* bears, and always commands a good price. It has sold in Covent Garden market these three seasons past, for 7s. per half sieve, which is 15s. [about \$3.75] per bushel, or as nearly that as possible. Although in that market it has to compete with foreign plums, its bloom is so fine and its quality so good, that it is always the first sort sold. I mention this as it will, of course, do as well in your fine plum country, and make the fortune of some orchardist there. My market salesman sent me word last season that I ought to plant *acres of it*, for no early plum could compete with it. [This plum is now considerably disseminated in this country. It bore last year, both in Mr. MANNING's collection at Salem, Mass., and in our own garden; and in both cases, so far as an opinion could be formed upon a single year's bearing, promised to justify Mr. RIVERS' high commendation. Ed.]

Reine Claude de Bayay—is a most prolific and excellent *late* plum. It also will be found worthy of attention by your orchardists. This and *St. Martin's Quetsche* may be planted by the acre with the certainty of a profitable remuneration. In August, and early in September, when plums are in full season, there is such a glut in the markets that they become nearly unsaleable. Green gages therefore, I have known sold at 1s. 6d. [34 cts.] per bushel. The plum orchardist must on this account, avoid planting many of these mid-season sorts, and cultivate chiefly *very early* and *very late* varieties.

Coe's late Red is a most abundant bearer, but not so large or so good as *St. Martin's Quetsche*. By the way, I have never yet found this latter plum on the Continent. The "*St. Martin's*," there, as is well known, is *Coe's late Red*, and is always a purple plum.

Dwarf Plums.—I have, I think, succeeded in *dwarfing* the plum. I have plants of the Green gage, only 10 *inches high*, full of blossoms; and some in pots, under glass, not more than a foot in height, with their fruit set. They are grafted on the Sloe, or Blackthorn (*Prunus spinosa*.) This grows abundantly on the clay banks in this neighborhood, for it seems to flourish naturally only on poor, calcareous, clay soils—i. e. white clay, full of chalk stones. This species of *Prunus* or wild plum has long attracted my attention, for I have observed that it never forms a tree, but always

remains a shrub of some six or eight feet in height. I also found it most impatient of removal, unlike other plums, and therefore I thought it might be easily kept in check by root pruning. I have, accordingly, had a few of each of our finest plums grafted on stocks raised from seeds of this species, and am happy to find them easily kept in check, and quite inclined to make exceedingly pretty dwarf trees. The graft unites well, but is rather shy of "taking," as not more than three out of five have hitherto succeeded. Budding may do better, but has not, as yet, succeeded so well as grafting.

Apples, in England, are, in most seasons, so sharp as to scarcely pay for gathering. Yet there are some few kinds that remunerate the orchardist. I grow but two varieties for market crops: viz. the *Sturmer pippin* and *Dumelows' seedling*. These are both favorites in Covent garden: of the former I have about 2000 trees, from 3 to 10 or 12 years' old—a partial crop last season has given me 150 bushels or more. These are now making in Covent Garden market, from 10s. to 16s. (\$2.50 to \$4) per bushel, and will make a better price at the end of the next month. *Dumelow's seedling* is much esteemed for its acidity and *falling* properties (as a cooking apple we suppose. Ed.) This is generally sent to market in February and March, and makes from 6s. to 8s. per bushel.

Mr. BARRY of Rochester, who was here in December last, kindly brought me a basket of Northern Spy and a few Melon apples. They were all delicious. *Your apples*—such as these—I can eat, as they are tender—almost melting, and easy of digestion. Our apples, with few exceptions—such as *Reinette de Canada*, and one or two others, are too crisp and hard for delicate stomachs like mine.

I am, my dear sir, yours truly, *Thomas Rivers*.
Sawbridgeworth, Herts. England, April 28, 1849.

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LATE GANSEL'S BERGAMOT PEAR.—[We are also indebted to Mr. Rivers, for the following account of a new English pear of note, written by the originator, Mr. WILLIAMS, of Pitmaston. Ed.]

This seedling came into bearing the last two years, and was the result of a cross with Gansel's Bergamot; but what the other parent was I cannot recollect, for in the plantation of seedlings in which it grew, the numbered marks rotted and were lost. It is, however, a fine large pear, having the shape of the Gansel's Bergamot, but with less color on the sunny side, and no grit.

The tree is exceedingly vigorous, and promises to be a great bearer on *standards*. The fruit was gathered the two last seasons, about the first of October, and was very excellent throughout the month of December. It succeeds so well on stan-

dard trees that I advise no other mode of cultivation. It should also be grown on pear roots. By way of distinction, I have named it "The Late Gansel;" and my gardener compared the flavor of this pear with that of the Suffolk Thorn, and my pear was found to be very superior.

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HORTICULTURE IN FRANCE.—A writer in the *Revue Horticole* says there are 600,000 hectares* of gardens and orchards in France.

He estimates the mean value of the products of these gardens (including nurserymen, florists and hot-house growers) at 1,000 francs, making 600 millions of francs (\$120,000,000) as the annual product of the horticulture of France.

"If," he continues, "we would estimate the population engaged in cultivating this wide spread area of gardens and orchards, we must remember that at least one family is necessary for the cultivation of a hectare. Our gardens, without counting those which are only the little yards of rural mansions, furnish labor to and support 600,000 families, (say 500,000) or 2,500,000 souls; and this population is beyond comparison, among all the working classes who labor for towns, the most industrious, the most orderly, the most moral, and consequently the most easy in their circumstances. That which most tends to preserve this state of things is that, almost every where, the men leave to their wives all the business with the towns, and thereby avoid all loss of time and all temptation to bad habits. The women often pass part of their nights going to market, and having made their sales at dawn, hasten back to their homes content with the morsel of coarse bread that they carried with them. This is by no means the case with the men, when they make the same journey. They will not confine themselves within the same limits of moderation and frugality.

"There is then no special culture, with the exception of that of the vine, which occupies so large a portion of the population. The total product of gardens is larger than that of the vine, though the annual value of the latter, at the lowest calculation, cannot be placed under 500 millions of francs (\$100,000,000.) The vine gives employment to five millions of population (or 1,000,000 of families,) whilst the gardens employ 2,500,000. But the five millions of vine dressers, or at least a large part of them, give also a portion of their time to other kinds of cultivation, necessary to the support of their families; whilst the market gardeners—men, women and children, devote their whole days, and often part of the night, to the culture, transportation, and sale of their products." *Revue Horticole*.

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ARRANGEMENT OF FLOWER GARDENS.—I confess that I am sorry to find your correspondent Mr. Cuthill, boldly attempting to advocate the re-

vival of, and to pass a eulogium on, the frittered flower-gardening of past years, and I trust he will not be offended by my taking the liberty of saying (in all courtesy) that my view of the subject is not consonant with his. The difference between indiscriminate mixture and variety was not so well understood a few years ago as it now is. I think that the mixed flower border is the most apt illustration of Mr. C.'s simile (the uniforms of the Spanish Legion) "a thing of shreds and patches." That great authority, Mr. Repton, speaking of plantations where the trees are mixed in a regular manner, says: "In the system of planting, all variety is destroyed by excess of variety. For example: if 10 different clumps be composed of 10 different sorts of trees in each, they become so many things exactly similar; but if each clump consist of the same sort of tree they become 10 different things." This observation applies with equal force to a mixed flower-garden.

It must be admitted that the mode of filling the flower beds of a mansion must be subservient to the requirements and residence of the family in the country; and it is now customary to pass the delightful months of May and June in London, and to resort to the country in July, at which time what can be more beautiful than a terrace-garden arranged in well contrasted masses of colour? In such a garden we avow the principle of artistical disposition; it is an adjunct to the mansion, and should bear the same impress of art and refinement which the "*elegantia formarum spectator*" would desire. In such a garden may be introduced vases, sculptures and other works of design, which would give a character and unity of expression to the whole, while the Cypress would, by its elegant form and associations and perpendicular direction, beautifully contrast with the long horizontal lines of balustrade.

In the gradual progress of society there will be found in general, a disposition to adopt old practices which are familiar to us. To advocate what we have been long accustomed to, is perhaps natural, but it is a privilege of man, as a reasonable being, to think as to how far old usages are consistent with a state of refined civilization, and, availing myself of this, I will proceed to test the rival modes of flower gardening by our advanced standard.

Ornamental flower gardens are in general placed as appendages to regular buildings, as mansions, conservatories, &c., and as such must be regarded as episodic works of art, forming a part of the variety of the garden scenery, but constituting in themselves a perfect whole. To do this there must be symmetry, congruity, and harmony of the parts. Montesquieu says, "things which we see in succession ought to have variety, for our soul has no difficulty in seeing them; those, on the contrary, that we see at one glance ought to have symmetry." Upon this principle, and upon that of producing a greater amount of variety, I prefer the massed to the mingled flower garden, wherever

* The *hectare* is a little more than 2 acres.

it is in connection with a residence of any architectural pretension, remembering always that the gay assemblage of Pelargoniums, Calceolarias, Petunias, Verbenas, &c., are not to be jumbled together in chaotic confusion; but placed with due consideration, to heighten, by contrast, their individual and collective effects. It is one of the great sins of the present day that fashion in these matters is too often mistaken for taste.

"Despotic Fashion, in fantastic garb,
Of, by her vot'ries, for the magic robe
Of Taste mistaken, with ill-guiding step
Directs our path."

I think that art in gardening matters cannot be too highly developed on the ground immediately surrounding a mansion residence. In such a situation it forms a striking contrast to the more distant scenery, each lending to the other a charm; the one of art and brilliant coloring, the other of nature and repose.

I would extend the principle of introducing flowers in masses to the lawn and shrubberies, for the same reason, that greater variety is produced thus than by the old method of mingling together shrubs, herbaceous plants and annuals in the summer, leaving bare, naked, raw surfaces of mould to offend the eye in the winter and spring months. In the outlines of shrubberies I would avoid the long meandering curves by which too many are distinguished, and endeavor to imitate that bold, irregular and beautiful effect, that intricacy and variety which Nature's hand gives to her own works. In the graceful curves of a walk, made to avoid real or apparent obstacles, or to lead to special or beautiful scenes, there is reason and the beauty of utility; but in long monotonous curves of belts and clumps, with single herbaceous plants ranged with the precision of the plants in our old greenhouses, there is monotony and bad taste.

A walk, too, is avowedly a work of art; it is intended for human comfort and convenience, and like all others of the luxuries (which by habit become the necessities) of refined society, it should seem what it is, and therefore cannot be too smooth, easy, or highly defined. In the shrubbery, the outlines should be those of nature, introducing masses of various kinds to prevail in different localities, and allowing everywhere the shrubs to kiss the turf without the intervention of a raw cutting margin, or those abominable strips of turf so commonly used as margins, and not inaptly termed ribbons.

If herbaceous plants are used, their proper place appears to me to be rather in the transition flower garden (or that which usually intervenes between the mansion and wilder grounds,) than in the parterre or terrace garden. In the beds of the latter the finest effect will be produced by masses of our summer and autumn bedding plants, by various evergreens kept in pots in reserve, and plunged in the beds for winter season, and by bulbs treated in the same way for the spring decoration. If herbaceous plants are used they should be in

large masses, and the less regular their arrangement is, the better will be their effect. *Henry Bailey, Nuneham.—Gard. Chron.*

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CHINESE WINTER FLOWERS.—On visiting some of the flower-shops in Shanghai, in the middle of January, I was surprised to find a great many flowers which had been forced into bloom and were now exposed for sale. I was not aware, until I had this view, that the practice of forcing flowers was common in China. Many plants of *Magnolia purpurea* were in full flower, so were many kinds of double-blossomed Peaches, the pretty little *Prunus sinensis alba*, and a variety of *Camellias*. But that which struck me as most remarkable, was the facility with which the *Pæony Moutan* had been brought into full bloom. Several varieties of this plant were in full flower; and at this season of the year, when all out of doors was cold and dreary, they had a most lively effect. Their blooms were tied up, to keep them from expanding too rapidly. All these things had been brought from the celebrated city of So-chow-foo, the great emporium of Chinese fashion and luxury.

You will perhaps think that the Chinese have glass houses, hot-water pipes, Polmaise stoves, and all those fine things which assist gardeners and amateurs in Europe. Nothing of the kind; they do all these things in their houses and sheds, with common charcoal fires, and any quantity of straw to stop up the crevices in the doors and windows.

At this season of the year the "Kum-quat" (*Citrus japonica*), which is extensively grown in pots, is literally covered with its small, oval, orange-colored fruit. This with various other species of the Orange, are mixed with the forced flowers, and together produce an excellent effect. I think if the "Kum-quat" was better known at home, it would be highly prized for decorative purposes during the winter months. It is much more hardy than any of its tribe; it produces its flowers and fruit in great abundance, and it would doubtless prove a plant of easy cultivation. To succeed with it, as well as the Chinese, however, one little fact should be kept in view, namely, that all the plants of the Orange tribe which fruit in a small state are grafted. *Robert Fortune.*

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A BED OF FINE ROSES.—Those amateurs who are desirous of increasing their stock of roses, so as to have a good display of bloom this season, may do so by purchasing plants in pots; a form of cultivation now practiced at all the nurseries, and presenting great facilities for the quick realization of the pleasures derived from this beautiful flower. I have just made such an increase myself, and have finished planting a bed, from which I hope to gain much satisfaction. I shall give the particulars of my own procedure, so as to lead no one into fanciful experiments or needless expense.

Having a large grass-plat, with no flower-beds

to break its continuity, and being desirous of growing more varieties of the rose, I determined to cut out a circular bed in the centre, about 9 feet in diameter. The circle was struck with a radius composed of a piece of cord, revolving on a central pin by means of a slip knot, or rather loop, the outline being marked by a sharp stick at the other extremity. This outline was then cut deeply with a sharp spade, and the turf was thinly pared away, leaving much of the fibrous rooty matter behind. My grass is an old pasture, having a good substratum of hazel loam; if it had been recently laid down, with a poor hungry subsoil, I should have trenched the bed, and buried the turf, removing some of the poor mould and putting better in its place. But in my case this was not required, and the loam was deeply dug, a quantity of rotten frame manure being well mixed with it as the work proceeded. A bed was thus formed, elevated in the centre and gently declining to the edge, of the proper shape for receiving and displaying the plants.

These plants I procured from the rose nursery of Mr. Francis, of Hertford, and they came in healthy condition; good strong plants, capable of rapidly bearing abundance of bloom. I will give their names, premising that the selection is a mere matter of taste, and may be indefinitely varied. These, it was thought, would make a pleasing collection at little expense. The descriptions are from Mr. Francis' catalogue. Austrian Briar, Persian Yellow. Hybrid Perpetuals:—Dr. Marx, rosy carmine; La Reine, brilliant rose-colour; Madame Laffay, dark rich rose; Auber-

non, dark brilliant crimson; Duchess of Sutherland, large brilliant rose, mottled; William Jesse, crimson, tinged with lilac. Bourbon:—Leveson Gower, delicate carmine; Phoenix, bright rosy red; Queen, delicate creamy salmon; Pierre de St. Cyr, dark purplish crimson; Bouquet de Flore, brilliant rose; Bossuet, splendid rich carmine. Hybrid Bourbon:—Coup d'Hébe, very large, bright pink. China:—Desfontaines, pure white; Eugene Hardy, pale creamy pink; Archduke Charles, rose; Triumphant, dark rosy crimson. Tea-scented China:—Devoniensis, delicate pale sulphur; Elise Sauvage, fine yellow, buff centre; Hardy, dark rose pink; Belle Allemande, large blush; Josephine Malton, large creamy white. These are arranged both with reference to colour and habit; the strongest growing sorts being placed in the back ground, and the China and tea-scented nearer the edge. My object has been to produce a mass of bloom all over the bed, without injuriously crowding the plants; and about the number just specified will do this.

Having fixed upon the distances of the plants, I trod the soil a little in the spot where each was to be placed, to counteract the lightness produced by deep digging. A hole being made, the roses were turned out of the pots carefully, and deposited in their places without the balls being disturbed, the soil being trodden firmly in around them. The bed being raked, the work was done. Around the edge of the bed I placed cuttings, or divisions of the roots of double Violets, to form good plants by next spring. *H. B. Gardeners' Chronicle.*

DOMESTIC NOTICES.

VISIT TO BUIST'S NURSERY.—While we were in Philadelphia, early last month, we had a great deal of pleasure in visiting the exotic department of BUIST'S nursery establishment.

Mr. BUIST has for a long time, we believe, employed more capital in exotic floriculture than any other commercial grower in the country. His extensive trade, especially with the southern and western states has enabled him to introduce immediately every new species, and to maintain an immense stock of all the finest exotics in cultivation.

Our visit was only to the exotic portion of the establishment—what is known as the "city green houses" in Twelfth St.

We found there a very large stock of all the most valuable and desirable plants. The rapidity and facility with which all popular and new plants are increased in this establishment immediately struck us, no less than the large stock already fit for sale of species very lately introduced—among others, such plants as *Plumbago larpentæ*, *Tor-*

renia asiatica, *Cuphea stigmatophyllum* and *Amphicoma*, etc.

Torrenia asiatica was full of flowers, and most exquisite flowers they are. Mr. BUIST has already a large quantity of young plants of this *Torrenia*, which will undoubtedly prove one of the finest acquisitions of the green-house—growing, as it does very freely, hanging over the sides of the pot, and flowering abundantly for a long time. *Plumbago larpentæ*, we think, judging from a plant, in our own garden, will flower most abundantly in the open border—and a bed of it covered with its rich dark blossoms will be exceedingly beautiful. In one of the stoves we noticed a rare climber—*Stigmaphyllon ciliatum*—loaded with clusters of delicate bright yellow blossoms.

In the house devoted to Cacti we noticed quantities of the following new species—*Cereus fieldii*—flowers nearly blue; *Epiphyllum crenatus* and *Cereus maynardii*—the latter resembling the night-blooming cereus in form, growth, and size of the

flowers, but differing in the colour of the latter, which is orange.

We saw for the first time, the beautiful convolvulus-like plant, *Calystegia pubescens*, brought by Mr. FORTUNE, from China. A double flower of this order is something quite unique, and this species not only bears abundance of lovely *blush* colored blossoms, but it is a free-growing climber, which, turned out in the open borders, will be a decided ornament to the parterre or shrubbery in summer.

Campanula nobilis, also brought by Mr. FORTUNE from China, was in full bloom. The plant we saw was 4 feet high, with 40 fully expanded flowers upon it, each 2 inches long, and an inch in diameter. The colour a purplish violet, the interior of the corolla beautifully spotted. It proves to be a perfectly hardy herbaceous plant in this climate.

Fuchsias were in full bloom, of almost every shade of colour and of extraordinary size. It is not a little interesting to look at the late varieties of this plant, and compare them with the old "Ladies Ear Drop," merely to see how constant reproduction from seed, when florists aid at the improvement of certain points—will certainly bring about the desired result. We found some of the blossoms of the largest of these Fuchsias over 2 inches in diameter, measuring the broadest part of the corolla, and the whole blossom, including footstalk and pistil, 6 inches long. Among the most noted of the new varieties were One-in-the Ring, Sir H. Pottinger, Mayle's Enchantress, Clara, Acantha, Gigantea, etc.

Diplacus puniceus was looking prettily in full bloom, and *Gladiolus formosissima* with the most exquisite carmine and white blossoms especially attracted our attention.

We saw a considerable stock of the new English grape—*Joslin's St. Albans*—at present so highly extolled by British cultivators, as well as the following rare vinery sorts—Trebbiana, Northwood Seedling, and Baretto de Clerigo.

Among rare evergreens, grown in pots so as to be removed at any season, we were glad to see large stocks of Deodar Cedar, and the new Japan Cedar (*Cryptomeria*) both hardy in our climate, and both remarkably graceful and beautiful in habit; besides these, we noticed *araucarias* of several species, cedars of Lebanon, several rare kinds of *Taxus*, (among which *T. adpressu* is very pretty and distinct) etc., etc. Mr. BUIST pointed to us a specimen of *Araucaria imbricata* 3 or 4 feet high, which had stood in the open border for 3 winters uninjured—yet was quite killed by the cold of last winter. We imagine, however, that if the soil where it grew had been *well drained*, it would not have been injured—as a much younger plant in our own grounds stood the winter perfectly, though the mercury fell 6° or 8° below its lowest point at Philadelphia. For these evergreens, a well drained border is indispensable, where there is any danger of the severity of the winter.

Mr. BUIST was greatly vexed to find that a shrub sent out to him from England as *Deutzia sanguinea*, is not correct—bearing this year white blossoms, like those of a *Philadelphus*.

We were both delighted and surprised to find a very bold and handsome species of *Yucca*, from the mountains of Asia—*Yucca recurva*—quite hardy, and growing in the open border all the year round. It is certainly a fine acquisition to our pleasure grounds.

We found Mr. BUIST engaged in getting ready a very large and magnificent collection of plants to stock the new conservatories now being erected by Mr. RUSH. Among many large specimens ready for this purpose, we observed a Bourbon palm (*Latania borbonica*) 14 ft. high, and 12 or 14 ft. in diameter.

The collection of roses is very large. Of the everblooming and perpetual sorts, numbers are grown in pots ready for transportation at all seasons. The hardy roses, in almost countless variety, were in bloom at the hardy nursery department, a mile and a half from the city garden. The most singular, though least beautiful one being the "Green Rose," a curious example of vegetable morphology, the petals of the flower being all green, like the leaves of the plant.

Mr. BUIST's establishment consists at the present moment of three distinct departments—1st. An extensive seed warehouse, No. 99 Chestnut St.;—2d. The city Green-houses or exotic nursery, 140 South Twelfth St.;—3d. The general hardy nursery of fruit and ornamental trees, and seed farm on the Darby road. The buildings have now so completely surrounded the city establishment, that Mr. B. informed us it is his intention to remove all the exotic department next year to his general nursery and seed farm on the Darby road—thus consolidating the whole establishment as much as possible. Either the amateur or the professional horticulturist who wishes to see all the garden novelties of the day, will find a great deal to interest him in a visit to Mr. BUIST.

YORKVILLE NURSERY—THOMAS HOGG & SON. Mr. Hogg, senior, who is one of the oldest and most experienced horticulturists of the country, has long been celebrated for his skill as a plant grower. The establishment at Yorkville is now remarkable for its richness in all botanical rarities, as well as the scientific knowledge of both father and son.

We have not had the pleasure of examining the Messrs. Hogg's collection for several years,—not indeed, since, crowded out of their grounds in town,—they have established themselves much more extensively at Yorkville—about four miles from the City Hall.

We found here a great number of interesting things, both under glass and in the department of hardy trees and shrubs.

Most of all, we were gratified to see a handsome specimen of the new evergreen tree from Florida, named from our distinguished botanical

savan, Professor TORREY—*Torreya taxifolia*; this specimen has been growing in the open ground for four or five years, entirely without protection, and exposed once to a temperature of 8° below 0 of Fahrenheit, without the least injury. Its general appearance is that of a Yew tree, but it is more upright in habit, much more rapid in growth, and of a brighter and more lively green colour. Messrs. HOGG are now propagating it considerably, and it will undoubtedly form one of the finest acquisitions to our limited list of fine hardy evergreens.

Budleya lindleyana has also been proved here to be a hardy deciduous shrub. *Wiegela rosea*, and *Spiræa prunifolia pleno*, which we found many specimens of here, Messrs. HOGG agreed with us in considering the most charming acquisition to our hardy shrubs—both so beautiful and so profuse in their blossoms, and both blooming when only a foot or two high.

A variety of Dogwood with variegated leaves, and with a really distinct and ornamental effect—not pale and sickly, like many variegated-leaved trees, attracted our attention. We also observed a very handsome Weeping Sophora, and several Scarlet Horse Chestnuts in full bloom. A fine tree 20 feet high, of the Chinese Sand pear was a conspicuous object along one of the nursery walks—its foliage being almost as large and handsome as that of *Magnolia grandiflora*. This species certainly deserves to be more generally planted as an ornamental tree. Messrs. HOGG think it will, from its vigorous habit and free growth, make a capital stock for working the finer pears upon, and they are making some experiments to test this point.

The collection of hardy trees and shrubs comprises all the choicest and best species and varieties. For showy and rare herbaceous plants, this nursery has long been celebrated; and we noticed a great many species grown in quantities to supply the demand. Among climbing shrubs, a variety of the Trumpet flower—*Tecoma radicans superba*, was pointed out to us as very desirable—a large stock of it being ready for market. It grows quite dwarf, is a very free bloomer, and the flowers are of a very vivid colour.

Thalia dealbata—that beautiful southern aquatic proves quite hardy here. Planted in a pond, where it is covered with 5 or 6 inches of water, it grows and flowers freely all summer. We also saw that rare and beautiful variety of our water Lily, *Nymphæa odorata rosea*, in full bloom in the same pond—the flowers pure white with a deep pink or crimson centre—very beautiful and deliciously fragrant.

The green-houses, hot-houses, and stove departments of the Yorkville nursery, are all extensive. We noticed on entering the green-house, two noble specimens, each 10 or 12 feet high, and very perfectly formed, of that most lovely of all evergreen trees the Norfolk Island Pine—(*Araucaria excelsa*.)

From among our notes of new and rare species

in the collection, we extract the following, which may interest some of our readers.

Hot-house plants.—*Cestrum aurantiacum*—a very desirable plant, of much neater habit of growth than this tribe of plants generally; the flowers of a beautiful waxy yellow, blooming during the month of December, when flowers of any kind are acceptable. A capital species.

Begonia fuchsoides—a most exquisite species of Begonia, bearing bright pink flowers in profusion during autumn and spring. The foliage is small, neat and glossy, the habit excellent. Messrs. H. have a large stock of this plant.

Mr. FORTUNE's new Cape Jasmine—*Gardenia florida fortuneana*—of the size and beauty of which so much has been said, is here, but has not yet bloomed.

Napoleona imperialis—from Africa, very curious and striking in its flowers.

Combretum macrophyllum—a new species of robust growth and large foliage—not yet flowered.

Barnadesia rosea—a shrubby syngenesious plant, with spires at the base of the leaf, and very singular flowers of a beautiful deep rose-colour. It continues in bloom some time, and will probably succeed well in the green-house. It is a decided acquisition.

Bougainvillia spectabilis—a climbing plant—quite new.

Justicia aurantiaca—this has not yet bloomed, but judging from the plates in the foreign Botanical works, it will prove one of the finest of hot-house plants.

Clerodendron fallax, *C. sinuatum*, *C. splendens*, *C. squamatum*, and several other species—very fine plants, blooming all the summer and autumn.

Bignonia picta—a capital species of very free growth and beautiful foliage. It flowered last month in the collection of Mr. WM. NIBLO, of New-York. The flowers are light lilac in colour, with markings of a deeper shade in the throat, fading off towards the edges of the corolla. The shape of the flower is similar to that of *B. radicans*—not quite so long in the tube, and rather more open in the mouth. It apparently succeeds well in the conservatory, and will form a fine contrast with *B. venusta*.

Gloxinia teuchlerii—a very handsome species, and other new varieties.

We noticed a strong plant of *Musa cavendishii* showing flowers—and among other plants in the hot-house, that were quite new and rare, we noticed *Eranthemum coccineum*, *Begonia albo-coccinea*, *Raphistemma pulchella*, and *Rhytidophyllum floribundum*.

Green-house plants.—In the green-house our attention was arrested by a fine specimen, 8 feet high, of *Yucca alafolia variegata*.

Ipomea ficifolia—this beautiful climber cannot be too highly recommended. Planted out on a trellis or arbor, like *Ipomea learii*, it flowers even more profusely than the latter, and grows with equal luxuriance.

Luculia pincianum—a new plant with superb heads of pink blossoms.

Viburnum japonicum—distinct species—leaves broad and glossy.

Among other new and rare species lately introduced, were also the following—*Ribes gerdonianum*, *Henfrega scandens*, *Lycium fuchsioides*, *Eschynanthus Lobbianus* and *Penstemon crassifolius*. The latter, Messrs. H. think, will form a good plant for “bedding out,” and have made a trial of it this season. *Scutellaria ventenattii* is also likely to prove valuable for the same purpose.

But it would require more space than we have at our disposal to do justice to the exotics in the Yorkville nursery. Any of your plant-loving readers who may have a couple of hours to spare, would find them most agreeably employed in a visit to this establishment.

Messrs. HOGG, in showing us their strawberry beds, took occasion to declare their total want of faith in the sexual theory. They contend from long experience that swelling of the fleshy receptacle which we call the fruit of the strawberry, is entirely independent of the action of the pollen—since there may be excellent strawberries with few or no perfect seeds. On the other hand, they declare that it is to the condition of the soil alone that the barrenness of good strawberries is always to be attributed—a deep and suitable soil, and good cultivation always giving a heavy crop, and an unsuitable soil the contrary—so that in indifferent or exhausted soils the finest strawberries blossom, but set no fruit.

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BOSTON PINE STRAWBERRY.—We are bound to do this strawberry, originated by Mr. HOVEY of Boston, the justice to say that it succeeds admirably with us—bearing large crops of excellent fruit—the berries of fine size and higher flavored than Hovey's seedling. It sets a full crop by itself, without the necessity of looking after staminate plants, the blossoms, like those of the Large Early Scarlet, being well provided with stamens and pistils.

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TO MAKE HEALTHY FOLIAGE.—Sometimes the leaves of plants, both in pots and in the ground, lose their natural green colour. Very often we can see at a glance that it is owing to unsuitable soil, bad drainage or the like; but occasionally, it is very difficult to account for it.

Now in many cases, especially when it arises from the want of suitable food, syringing or sprinkling the foliage with a solution of carbonate of ammonia (the *sal-ammoniac* of druggists) restores the natural healthy condition of the foliage, greatly promotes growth, and gives new life and vigor to the plant.

Take two ounces of *sal-ammoniac* and dissolve it in a gallon and a-half of water. Sprinkle or shower this over the foliage two or three times—twice in a week if the plant is only slightly affect-

ed. Two or three applications are generally sufficient to give a remarkably green and healthy appearance to the foliage, especially if applied when the tree or plant is making a new growth.

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SWEDISH CHERRY.—The cherry known by this name on the Ohio river has fruited with us this season, and appears to be identical with our *Early White Heart*.

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POMOLOGICAL CONVENTIONS.—*Dear Sir:* Permit me, through the medium of your widely extended journal, to say a few words on the subject of pomological conventions. Two such conventions, both claiming to be national, are to assemble in the autumn of the present year,—the one to be held at Syracuse, and the other in the city of New-York. Both have taken the preliminary steps, and no doubt will be numerous attended. The question need not now be discussed which is the *simon pure*; as in the opinion of many judicious men, both have equal claims. Neither need we now argue the question, whether we this year shall have one or two conventions. That has already been fully settled. But we may with propriety discuss the question, whether some arrangements shall not be entered into, that shall, after this year, merge the two conventions in one. Is it possible to bring this about? Is it not very desirable to do so? Is not a very large majority of the pomologists in our country opposed to the two conventions assuming an attitude of hostility towards each other? And have we not ground for many forebodings that this will be the case? Shall an effort be made to bring this about? Or shall we stand aloof, and say to each other as Uncle Toby said to the flea,—“Go, poor devil; the world is big enough for us both.”

The fact need not be disguised, that many of our western friends are in favor of having two pomological conventions. The one to embrace the eastern states, and seaboard; the other for western New-York, and the western states. The main plea is, that the two sections of country differ so widely in diversity of climate and soil, that many of our choice western fruits are inferior in the eastern states, and are in danger of being unjustly classed as second or third rate. This and other arguments that could be named, are urged in favor of a western organization.

Some of our eastern friends, too, are quite tenacious, and seem determined that the congress shall be acknowledged as the national convention. And equally strenuous are some of our western friends, that the “North American Pomological Convention” shall be the convention. But shall the great body of pomologists in our country suffer themselves to become entangled in a controversy of mere etiquette?

How shall these two conventions be merged in one? The only way to bring this about, is for the great mass of pomologists, from the east and from the west, to attend both of the conventions;

and let the place and time for holding the convention for the year 1850, be mutually agreed on. Then, after each have finished the business before them, let them adjourn, or rather dissolve, to meet at the time and place specified. Then, when we meet in the year 1850, we are all one.

These suggestions are thrown out without consulting any person on the subject; and it is well known to the readers of the Horticulturist, that this is not the first time that the writer has endeavored to promote peace and unanimity among pomologists. Should his views be seconded and carried out, and peace and harmony prevail, much good may be the result. "The world is large enough for us all."

Many of our eastern friends have already signified their intention to attend the convention at Syracuse; and there is but little doubt, that many from the west will attend the convention in New-York. Yours very truly, *B. Hodge. Buffalo, June, 1849.*

Mr. Editor—I must acknowledge my regret at the jealousy which has sprung up between the two pomological conventions. If a national convention cannot be kept up, except at the sword's point, its benefits can never equal its evil effects. If the glorious cause of horticulture must become identified with strife and personal enmity, through the medium of national pomological conventions, for one, I beg to be delivered from them.

Now, in view of the past and the future, I wish to ask, "*cui bono*," or in common parlance, "what's the use?" Is there not "a more excellent way?" Cannot the past be forgotten, and the tree of peace be planted where now broods the upas shade of discord? Suppose it cost the sacrifice of a little pride of opinion, or a little self-love, on all sides, to bring things right; what is that, compared with the benefits resulting from a restoration of union and peace?

Where can such a sacrifice be made in a better cause, or when at a better time than the present?

Or, if this may not be done, what then are our prospects for the future? Let us see. The idea of two national pomological conventions seems ridiculous, and only suggestive of rivalry and enmity; and hence, to a peace man, like myself, is intolerable. But perhaps each thinks the other will soon be obliged to back the course, and yield the whole ground to itself. This does not seem to me very probable; though, to be sure, I am not very conversant with the present "signs of the times," in that respect. Should it take place, however, with either one, it seems probable that the friends of that one could never become, as things are now shaping up, cordially affected towards the other. Hence, the one left would either have a great amount of active opposition to overcome, or, at least, lose some very valuable aid; both of which results seem to me unnecessary and undesirable. So, whichever way I regard the future, as things seem to be now tending, I can see only evil, and would therefore turn to another scene, as pleasing

as the other is displeasing; and, to my mind, as realizable as pleasing.

Now, letting the vexed question, of "legitimacy" or "nationality," entirely alone, and burying the past, why cannot measures be taken, at the next session of the two bodies, to blend them into one grand, harmonious whole? What is there to hinder? Who, of our eastern horticulturists, will devote themselves to the accomplishment of so desirable an object? Or rather, who will not?

Will you not, *MR. EDITOR*, propose some honorable, feasible plan, whereby this rupture may be healed, and peace once more proclaimed in the horticultural world? If the thing cannot be done otherwise, would it not be better to "rub out," and begin anew? Or, lastly, if it be really impracticable or undesirable, will you please tell us why it is so? that, having the facts in the case, we may judge and act accordingly. Very respectfully, *F. K. Phoenix. Delavan, Wisconsin, June, 1849.*

[We have received several letters of the same tenor as the two foregoing, so that it is perhaps unnecessary to publish more.]

We entirely agree with our correspondents, that there is no real ground of difference between the two pomological conventions; and could the leading members of these two bodies be brought together, it seems to us impossible that they should not fraternize.

The convention at Syracuse will, undoubtedly, be attended by many horticulturists from various parts of the country. We promise ourselves the pleasure of being there; and we expect to meet there many members of the Congress of Fruit-growers.

If, as we believe, the spirit which animates pomologists and fruit-growers generally, is not one of rivalry, but of cordial good will, all these clouds will be very quickly dispersed by a meeting face to face.

Everything, as regards future union, (which we cannot but agree with our correspondents in thinking desirable,) depends on the convention which meets at Syracuse; because to that convention properly belongs every question which will arise there; and out of the spirit of fraternity and universality which that body contains, must chiefly spring the materials of future united and harmonious action. *ED.]*

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CHEAP AND DURABLE WASH.—It has often occurred to me, that the editor of a horticultural journal, as thyself, must have need of both patience and good humor, to attend to the many troublesome enquiries of subscribers; many of which may have been propounded and replied to more than once before, for the gratification and information of other "novices."

Without knowing whether or no I am thus taxing thy politeness, I would draw on thy fund of experience, to ascertain if any wash can be recommended, readily coloured, of a stone or earth

colour, and as easily made and applied as white-wash or gas tar. The hope at first was indulged, that these two would mix, and so form a neutral colour; but after our best efforts, they obstinately refuse to associate on any terms. Even lime and gas tar will not combine.

If some economical and easily made wash were generally known, with the appropriate and suitable colouring matter, to give it a stone or slate colour, I have no doubt it might in time be generally adopted, and all of us be the gainers, in having many a glaring rood of paling, spoiling the scenery, and offending the eye,—sobered into keeping with the surrounding landscape, besides avoiding the necessity of the yearly spring coat, to “keep up appearances.”

I have understood stone coloured wash is much used in England for farm and other purposes, in place of our *white-wash*.

If any such “wash” can be recommended—durable, cheap, and unattended with much extra trouble in preparation—it will be useful to, and oblige *A friend to all improvements in rural affairs. Philadelphia, 6th mo. 8th, 1849.*

ANSWER.—The following is a most excellent, cheap, and durable wash for wooden fences and buildings. It owes its durability chiefly to the *white vitriol*, which hardens and fixes the wash:

Take a barrel and slack one bushel of freshly burned lime in it, by covering the lime with boiling water.

After it is slaked, add cold water enough to bring it to the consistency of good white-wash. Then dissolve in water, and add one pound of white vitriol (sulphate of zinc,) and one quart of fine salt.

To give this wash a *cream* colour, add one-half a pound of yellow ochre, (in powder.) To give it a *fawn* colour, add a pound of yellow ochre, and one-fourth of a pound of Indian red.

To make the wash a handsome gray stone colour, add one-half a pound of French blue, and one-fourth pound of Indian red; a drab will be made by adding one-half pound of burnt sienna, and one-fourth pound Venetian red.

For brick or stone, instead of one bushel of lime, use half a bushel of lime, and half a bushel of hydraulic cement.

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STRAWBERRIES AT THE SOUTH. Dear Sir,—Although many pages of the Horticulturist have been occupied with the “Strawberry Question,” yet but little if anything has been said relative to their subsequent culture and management. Now as I am desirous of cultivating them on a larger scale than sufficient for family use, and as my attempt last spring has proved a failure, I must seek for proper information somewhere, and to no one can I apply who is more able to furnish it than yourself. I will premise by stating that during the winter of 1847—8, I set out about $\frac{1}{4}$ acre of strawberry plants, about one-half were the Large Early Scarlet, and the rest Hovey’s Seedling.

Where the latter were located, one bed, (4 ft. wide) of the Scarlet were planted between every third bed. Except a light manuring at the time of setting out of rotted stable manure and guano, they received no dressing until the fall of ’48. The suckers were left on, as I wished to get enough to set out a large space. In November, they were gone over, thinned out, and had a light manuring of guano sprinkled over the beds, and the ground broken up with a pronged hoe, which while it loosened the soil, did not turn it over or destroy many roots. In January, this process was again repeated. At this time, guano and leached ashes were sprinkled over some of the beds, on others unleached ashes were used. The winter was a very mild one generally, but we also had a few days of greater severity than usually felt in this latitude. Towards the last of January, blossoms were to be found scattered over the beds of Scarlets, while the Hoveys were evidently on the decline, and from this time, or rather, I should say from early in January, they commenced declining, leaf by leaf dying off, (while the Early Scarlets were sending up new leaves) until nearly every one disappeared from the ground, and I gave them up as lost. In this, however, I found myself mistaken, for in the month of March a few began to show themselves, (at this time the Scarlets were generally in bloom,) and one after another, they shot up and recommenced growing, but not with that vigor which I would have expected from the quantity of manure and attention bestowed on them. But the worst of all was that they did not commence blooming until the Scarlets were out of bloom, the consequence of which has been an almost total failure of fruit. In fact, it may be so called, for all that were borne were small and imperfect, and they continued to produce flowers and these imperfect fruit until this time, and will probably until July. Now the information I wish to obtain from you is, whether such is the habit of the Hovey seedling; for if so, I must discard it, however valuable in other localities. If not, what could have produced such an effect, for the new plantation, made in the fall of 1848, died off very nearly in the same way. Are they a late variety, and if so, what other variety do you recommend to be planted among them as fertilizers?

Another point to which I would beg to draw your attention is, as to the management of strawberry beds. When should they be manured? Should the ground be kept loose around them all winter, or permit it to consolidate, or is it advisable when they commence growing, indicated by their blossoming and sending forth leaves, which takes place before the severity of our winter has passed, to break up the ground then, and apply manure? What manure is best adapted to the production of fruit—or have you ascertained their specific manure? You will truly oblige me by replying to these inquiries either privately or through the Horticulturist. I remain yours, &c.,
L. Charleston, S. C., June 13, 1849.

ANSWER.—The great point in growing strawberries at the south is to make the soil *deep*. Deep trenching doubles the size, and trebles the crop even at the north, but at the south it is indispensable—for the strawberry demands either a very moist atmosphere or a very deep soil. We should say that no culture of strawberries could be successful on a large scale at the south, unless the soil was subsoiled and trenched three feet deep. We would also advise lowering the beds deeper than the general level of the surface, instead of raising them above it, in order to retain as much moisture as possible.

The best manure for strawberries, in our judgment, is *poudrette*—we speak now from experience—only of the *poudrette* of the Lodi works, New-York. It is the most powerful and permanent stimulant, one exactly suited to this plant, and unlike common stable manure, produces *no weeds*. Besides this, it is the cheapest manure (at \$10 for 7 barrels) that can be had here.

We would advise covering the ground of strawberry beds with straw at the south, and never stirring it with the hoe or spade—or not oftener than once in two years.

Hovey's seedling is, usually, a good bearer, and blossoms all at one time; we think from the description, that our correspondent could not have obtained the true sort. We believe, however, that *Burr's new Pine* is likely to prove a better bearer and better fruit.

If the ground is well trenched, and manured with *poudrette* at the time of preparing the soil and setting the plants, no more manure will be required for three years. ED.

POTATOES AT THE SOUTH. Dear Sir—As our Irish potatoes mature so early in the season, that we are unable to keep them over for winter use, they being fit for the table in May, and fully ripe and vines all dead in June,—it becomes highly desirable for us to discover some mode either of keeping them, which we have never yet been able to do, (the heat and moisture of our climate rotting them very soon after they are dug,) or of growing some so late as that they will mature towards the close of the summer.

This last we have not been able to even test, as we are unable to obtain seed in a condition fit for planting at the proper season, which would be in July. The old potatoes would have exhausted themselves in sprouts, and rotted or otherwise perished, and those of the new crop will not grow until after they have been dug some time. Now, I will feel greatly obliged to you or some of your correspondents, if you can inform me whether this period of rot or time of maturing cannot be shortened, and if so, in which way can it be effected. I recollect of seeing an article in the *Gardeners' Magazine*, several years ago, recommending that the immature potatoes should be exposed to the atmosphere until they became green, but I cannot lay my hand on the article just now, and do not

recollect whether this recommendation was to effect the purpose I wish, or some other, and therefore take the liberty of applying to you for the information. L.

ANSWER.—We can only give one word of advice worth listening to respecting the above: viz.—planters at the south must take pains to originate varieties of the potato suited to their climate. This is easily done, if they will sow the seeds of those sorts now in cultivation which approach nearest to their desideratum; afterwards select the best of these seedlings and sow their seeds, again selecting the best. Two or three generations carefully bred in this way, will probably lead to a variety *adapted to the southern climate*, and when this is obtained, it will be easy to raise potatoes satisfactorily in the southern states, and not till then. ED.

PORCELAIN LABELS, ETC. *A. J. Downing, Esq.*
Dear Sir.—I take the liberty of sending you, by Adams & Co.'s Express, a few samples of "Bisque" Garden and Pot Labels, presuming you have not seen them. They are, according to my estimate of them, *the very article* so long needed by the amateur gardeners to supplant the unsightly sticks so often used to mark choice plants, and the perishable labels that are usually fastened on fruit and other choice trees; whilst the appearance of them as they project over the side of the flower pot, or hang suspended from the tree by copper or lead wire, is really ornamental. At least so I deem them in my garden. All that is necessary is to write on them with a *hard* lead pencil, and the mark will stand the exposure of a dozen winters without erasure, whilst the label itself being of porcelain is imperishable, and at the same time very strong. I am told that the inventor of them (it is a new article) finds sale for thousands of grosses in the neighborhood of London. Messrs. DAVID LANDRETH and ROBT. BUIST, of Philadelphia, are the only persons who have them to my knowledge; and as they are quite cheap, I presume they will meet an extensive sale here, as soon as known.

By the way, can you explain why the most of us near Philadelphia have lost our native hardy roses the past winter, whilst imported grafted and standard roses have lived through the severe test of the past season?

I have for some time intended saying a word about cheap green-houses. Few persons residing out of the city, in houses owned by themselves, are willing to be without a long porch or verandah. This is generally on the south side of the house; and with an expense of from 20 to 75 dollars, according to the size of the verandah or the glass used, one may enclose it in sash; which with thick curtains to be drawn at night, and a small stove cased around with tin, will keep the place amply warmed for all hardwooded plants, or even of the more tender kinds, if one chooses to take the trouble to give them the proper attention. A sufficient

quantity of water must of course be evaporated, and a plentiful sprinkling on the leaves at least two or three times a week if a high temperature is kept up. I have found much pleasure the past winter in such a place, and would recommend any one who may find the same interest amongst his few plants that I do, to try it, as it has far exceeded my expectations. A rough staging can be made of unplanned boards, and a portion of the sash hung as doors, so as freely to admit the air on pleasant days.

It is, perhaps, needless to say how highly your Horticulturist is appreciated among us; few periodicals are as anxiously looked for. Very truly Yours, "*Philadelphus*." Woodside, near Germantown, Pa.

[We present our best thanks to PHILADELPHUS for his obliging present of the labels, which we received in seven different patterns. We have used them, and are charmed with them. We have seen many labels, but have never seen or used any at once so tasteful in form, so beautiful in appearance and so excellent for the purpose. Every amateur who wishes to label his trees or his plants tastefully, will desire to use these labels. Will Messrs. Buist or Landreth, therefore tell us what they are worth per dozen or hundred? ED.]

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DISEASED PEACH TREES. Dear Sir—At the earnest request of a friend, I address you a few lines on the subject of the disease extensively prevailing in this vicinity amongst peach trees, hoping that you will be able to favor the public with some suggestions on the nature and preventive or cure of the disease.

Peach trees in this vicinity, in the fore part of May, bid fair to yield an abundant crop; but soon after the fruit was set, the leaves began to crisp, or curl up and drop off; the young fruit also dropped off, and many of the limbs, (the lower ones more especially,) presented the appearance of having been punctured in different places by some insect, so that gum would ooze out and the limbs die.

Young peach trees seem to be affected to a greater extent than old ones. A year ago our trees were similarly affected, but not to so great an extent. Yours, respectfully, J. H. Bostwick. Auburn June 19, 1849.

[We have examined some peach trees affected in this manner. We attribute their unhealthy appearance mainly to the injurious effects of the excessive changes of temperature last April. We would advise cutting out, immediately, all the diseased branches, and shortening back from two to four feet, the ends of all the sound limbs. This will force the tree to make a new head of healthy wood, and cause a favorable reaction to its vital energies. ED.]

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LAYING FRUIT GROUNDS INTO GRASS; VERSUS ROOT PRUNING.—I observe that much has been written in the pages of the Horticulturist of the necessity of *root pruning* to induce bearing in trees

otherwise too thrifty, and pushing all their growth into young wood. Let the tree grow ever so fast, when it gets ready to bear fruit, it will do so—and its large growth only prepares it to yield so much more abundantly when the time comes. If, however, instead of cutting off the roots, the cultivator will only lay down the soil to grass, and mow it, the warm rays of the sun and the moisture will be excluded from the roots of the tree, and going into the grass, a lessened growth of wood is the consequence, and fruit buds will be formed, and abundant bearing be the result.

This I have tried in more than one instance. It is only those who have but few trees, and those extravagantly cultivated, who thus complain. Large orchardists are rarely troubled in this way, being of necessity obliged to keep their orchards more or less in grass, the trees make a less luxuriant growth, and early bearing follows as a matter of course. Besides, if the root is pruned, a like pruning of the head must follow beyond what its proper formation requires, and thus extraordinary labor is expended. Nature should be guided, not thwarted, and I can see no more real necessity for pruning the roots of a fruit tree to check overgrowth, than for pruning a corn stalk for the same cause. Each in time, will perform its due functions. Lewis F. Allen.

[Our correspondent, who is an orchardist on a large scale, does not see the great value of root pruning to amateurs who wish to grow fifty trees in a small garden, because they have very little room for each tree. To such, root pruning and pinching are invaluable.—ED.]

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THE LAST WINTER ON PLANTS.—With the exception of a few stern days early in November, we had nothing that savored of a northern winter until the 20th of December. The atmosphere was mild and balmy, untroubled by the tempestuous storms, and the earth for the most time ready to receive the labors of the cultivator until the latter period. Consequently, the plow and the spade were kept in operation, as circumstances required. Frost was scarcely seen during the first twenty days of December, and the temperature so mild, that we were, one and all, trembling for the blossom buds from which we had hoped to gather our summer and autumn fruit. That they dreamed of spring, and began to expand their buds to meet its embrace is certain. That nature shielded them from harm when the cold winds came furiously from the north, and the cold and the ice raged with relentless fury is no less true.

On the night of December 22, our warm weather retired to a less fickle climate, and winter took possession of the season, heralded by the fury of a snow storm. Then, the ground was very smooth and unfrozen, and the fall of about six inches gave very good sleighing.

January was a fair winter month, not so cold as to be uncomfortable, or so warm as to occasion a sigh that winter had forsaken its stronghold and

passed away. But February, oh! who in New England did not have a cold nose, with all the discomforts of a rigorous temperature then? A short month, we will admit, but there was a vast amount of cold weather centered in its brief existence. On two or three mornings the mercury ranged from 17° to 20° below 0. Think of this ye who suppose that a temperature of 14° below 0 will destroy peach buds, and place in contrast our warm December, when it may reasonably be supposed they were prepared to fall easy victims to this intense cold. Probably during half the mornings in February, the mercury was low as 0, and at no time above freezing point; an unusual cold month, and we still shudder when we remember its severity.

March and April gave us but very few warm springlike days, yet spring advanced, though with tardy steps as they were away. The snow melted and the ice dissolved, but more under the influence of chilly south winds than warm sunshine. The ground dried and became fit for the labors of man, for there were but few storms to keep it moist and untillable.

Thus much for the general features of the season. We next notice its effects. Spring, it is already premised was backward. The blossoming of fruit trees was two to three weeks later than usual. The last frost of any amount was May 2. Currants and gooseberries were in blossom the 16th; English cherries and plums the 19th. The *Peach*, whose wood survived the winter admirably, the 21st, a good blowth and fruit set finely;—probably not more than one-fourth of the blossom buds winter killed. Pears in blossom 25th; apples, 31st; Quinces June 8th. Each of these varieties have blossomed abundantly, and present appearances which indicate full crops.

The blight may yet come upon them, to be sure; but let it be remembered that winter, that savage old tyrant at whose door so much mischief is always traced, with all his wanton freaks, has left them unscathed, so he must be allowed to escape guiltless this time.

Why our fruit trees have received so little injury from a winter of such contrasts, may be made a matter of curious speculation. For ourselves, we do not think that great degrees of cold furnish any effective cause in themselves of the loss of trees or fruit. But on the contrary, sudden and frequent transitions from heat to cold and cold to heat, by which they are frozen through perhaps one day and experiencing a spring temperature the next, are much better calculated to hasten the work of destruction on their energies; and it is under this impression that cultivators are now setting the few trees they are attempting to raise, (with more than usual success,) on the *north side* of their buildings, where the ground is less liable to thaw during the long winter, and where the north winds will salute them roughly; instead of in the sheltered grounds on the south, where every warm day and genial breeze woos them into

life and activity, and the next change sends a death chill into their vitals. Then, again, in exposed situations, the growth of wood is sooner finished, and, though it may not be so great from year to year, it ripens more thoroughly, and is better prepared for the vicissitudes which a northern winter always brings, than when it is overtaken by cold in an unripe or premature state. Our observation has shown us conclusively, that long winters of even temperature, though trees have been frozen through and no signs of thaw within them, are far less fatal than those which are usually termed our open winters which are full of changes.

Our last winter goes to re-establish this theory. In the early part, there was but comparatively little frost, and winter set in with the ground unfrozen. A thaw of snow soon followed, and then cold, which froze the ground and held it frozen until it thawed in spring. Then, again, we had, comparatively, but few freezing nights and thaw days in spring. Such weather, so injurious to grass and grain, cannot in any wise be harmless to trees, especially those of tender varieties. Hence we conclude that the vigor of our peach trees is not so much owing to the mildness of the winter as to the absence of those fluctuating changes for which our winters are so often eminent.

Grapes in uncovered and unsheltered positions have stood the winter much better than is usual when mildness and extreme cold follow each other in frequent succession. Few of the most tender exotics which were left uncovered have died down to the roots, and some others have survived. The *Isabella* and *Catawba* stood the winter well in a northwest exposure, unprotected.

Half hardy trees and shrubs have in most instances, escaped with less injury than usual. Young *Ailanthus* trees in this climate, will die down to the first growth of summer. Last fall, we cut off all the later growth, and they survived well to the height we left them, and put out early for the season, and vigorously this spring.

Of our shrubs, the rose "the queen of flowers" has suffered most. Our best varieties, which we had formerly considered tolerably hardy, many died to within about four inches of the ground. On the whole, the general character of the winter has been favorable to most trees and plants, whether native or exotic, and we have no doubt but by noticing its features and marking its effects on various productions, we can learn much in the matters of giving to trees and shrubs positions of exposure which will tend to render their cultivation more effective of success. *William Bacon. Richmond, Mass., June, 1849.*

P. S. I think the meteorological observations now making under the auspices of the Smithsonian Institution will do much to aid us in horticultural labors, and I propose an article on that subject some convenient time.

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TRANSMITTING GRAFTS BY MAIL.—*A. J. Downing, Esq., Dear Sir:*—Soon after reading in the

Horticulturist, the account of the *Onondaga* pear, I wrote to Gen. LEAVENWORTH, of Syracuse, N. Y., and requested him to send me a few of the grafts. This he had the kindness to do; transmitting them by mail. As they were received in such fine condition, I here state the mode in which they were put up. The *cut ends* were dipped in melted sealing wax, then each graft was rolled up in a narrow strip of oiled silk; the projecting ends of the silk being folded over the ends of the enclosed grafts, were neatly tied with a soft thread. Being thus prepared, the several grafts were placed between two bats of cotton, and enclosed in a common envelope, and sealed. The package was nearly a month in coming to hand; arriving here early in March, 1847; but on opening it, I found the grafts to be in admirable condition; the buds and bark perfectly plump and fresh. They were inserted in tolerably large stocks; have grown rapidly, spreading into fine heads; and I confidently expect next season, to "*eat of the fruit thereof.*"

Gen. LEAVENWORTH, a short time after sending me those grafts, forwarded me several cuttings of the *Richard's* pear. They were not, however, hermetically sealed, nor put up in oiled silk. They were no longer on the way than the others; but when received they were shrivelled, in fact dead, or nearly so; and although inserted immediately, they all failed.

From these facts, I infer that grafts, put up as were those of the *Onondaga*, may be successfully transmitted, by mail, many thousands of miles, at the right season; reaching their destination in one or two months; and that grafts sent, as were those of the *Richards*, will perish in half the time, and in going half the distance. The reasons are obvious. Yours, &c., *Jas. A. Maxwell, Monte Juan, Near Grand Rapids, Miss., June 1, 1849.*

DISEASED FRUIT TREES.—As one of the objects of the Horticulturist is, as I understand it to be, to disseminate information on any subject connected with horticulture, I propose to inquire of the editor, or of its numerous readers, the cause of an affection, that I have observed in my nursery among my apple trees. Having been engaged for a few years in the nursery business, I have, at times, observed that some of my young trees in the spring, that appeared healthy and vigorous, would just partially open their buds from the top to some distance down, and then remain so without expanding a leaf; and in the course of the summer, die down as far as affected. Below that, the shoots would put out numerous, and grow quite well. I had not paid any attention to them, more than merely to notice the fact, until this morning, when finding more of them affected than heretofore, I was induced to examine them a little; and on raising the bark under the buds, the young wood appeared discoloured with many small dark spots, as if some insect had perforated the bark to deposit its egg, or for some other purpose, and had poisoned the sap. There appeared

but little mark on the outside of the bark; but inside, the dark spots were numerous,—some of them near the eye of the bud, but many of them rather in a row between the buds. Not having a microscope, I could not examine them as minutely as I wished. I had a bearing apple tree in my orchard, of the *Rambo* variety, that died a few years ago, I now suspect, from the same cause; it showed a little green at the points of the buds, as if partially opened, but did not expand a single leaf, but remained for some time in that situation, and finally died in the latter part of summer. Some of the outer limbs of an adjoining tree of the same variety was affected at the same time, and died the same way. These were cut off as far as affected the following winter, and the dead tree cut down; since which time, I have seen no more of it in my orchard. I have had all the affected parts of the trees in my nursery cut out, intending to commit them to the flames; supposing that if it is the work of an insect, depositing its eggs on the tree, that will be the readiest way to get rid of them. At any rate, it can do no harm.

The cold weather here, this spring, has generally destroyed the peaches, plums and cherries, except in some elevated situations, where there is a light crop. In some places on the highest parts of our country, the peaches are very seldom injured by frost in the spring, while in lower situations they often are. Thy friend and well wisher, *Yardley Taylor. Loudon county, Va., 6th month, 12th, 1849.*

GRAFT BUDDING.—I would like to show "*A Cynic in Miss.*" (see April No.) my pear trees, the *terminal graft-buds* of which now measuring each some thirty-eight (38) inches in circumference ("*really quite old,*") and double worked with half a dozen of the choicest varieties. I could point him to their recorded history, (and that of many other varieties of fruit trees then in bearing from that process) in the "*Southern Sportsman,*" New Orleans, May 15, 1843, edited by Thorpe & Brenham, article, "*Budding and Grafting;*" and without diffidence too, as he presumes on his horticultural lore, and information as early as "*1844 or 1845.*" The Rev. Mr. L. is most intimate with my particular friends, whom he has visited annually for a few years past; in 1843, he resided at Vicksburg. With esteem, yours, *Ruricola. Port Gibson, Miss. June 14, 1849.*

TO DESTROY MOLES.—The May number of the Horticulturist has an article complaining of the injury caused by the mole to the *Osage orange*, &c. The following remedy has been found effectual for their destruction in the garden, and I presume would succeed elsewhere.

Mix a dough pill, either of flour or meal, with a strong seasoning of arsenic, and with a pointed stick open the track, (recent runs are the best ones, as most likely to be traveled) and drop in a pill once in a foot or two, taking care to close the

hole again with a lump of clay, so as to exclude the light. Grains of corn have been used instead of the pill, by poisoning them; but the pill is soonest prepared, and more thoroughly poisoned. If the pills are seasoned highly enough, a single feeding will suffice; if not, then repeat. A day's labor of a lad by this means, may destroy all the moles on a farm. From your position, you can disseminate the above over a vast extent of country, and do the farmer and gardener a great good. Yours truly, *J. L. Wilder. Cincinnati, May 22, 1849.*

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COVER THE SOIL.—I am a staunch supporter of the theory and practice of covering the soil in which all trees or plants to be submitted to high culture, are planted. I have found such decided benefit from the spreading two or three inches of straw over the surface where apricot trees are planted, that I never think now of allowing an apricot tree to grow in a border fully exposed to the sun.

Dahlias, I found *mulched*, in many parts of England, and if, as the gardeners always told me, the growth and perfection of flowers were promoted by keeping the roots uniformly moist and cool in an English climate, how much more would they profit by it here.

I fully believe in that part of Professor TURNER's theory which relates to forming and keeping the head and branches of a tree *low*, so as to shade and shelter the stem and branches, and even the soil in which the roots grow, from our violent sunshine. When the ground over the roots is open to the broad sunshine, then by all means cover the soil; and if you have not straw, then use litter, spent tan-bark, sea-weed, or whatever you can lay your hands on. Sincerely yours, *An Original Subscriber. Philadelphia, June 12, 1849.*

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ROSE INSECTS.—*Dear Sir.* Thanks to your article of last month, I have this year, for the first time, been able to subdue the insects on my rose-bushes. A white fly and a green slug together, have for three years past so attacked my roses, early in June, that they have completely eaten up the under sides of the leaves, and totally spoiled the beauty of the plants.

After reading your article, I procured one of Poole's syringes, with a crooked neck or discharging rose. With this, I could throw a shower of tobacco water on the *under sides* of the leaves, which I did for three successive days just at sunset. The first day I thought the remedy of no value, but the second dose killed nearly all, and the third destroyed every vestige of an insect—so that my plants entirely recovered and bloomed finely. Yours, *H. R. Harlem, N. Y., June, 1849.*

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PROFITS OF THE STRAWBERRY CULTURE.—Mr. D. D. T. MOORE, of Watervliet has about an acre of ground, which has been planted to strawberries three years. He paid sixty dollars for the land, it being a part of a farm which he purchased at that price per acre. The strawberries have paid

for the land, and leave a nett profit of nearly \$200. The past season, the strawberry ground has not been as productive as usual—it yielded 4,000 baskets, (three baskets to the quart,) and brought in the aggregate about \$150. Mr. M. thinks it would render the strawberry culture in this vicinity more profitable if more persons would engage in it. The reason he gives for this opinion is, that those who buy and sell strawberries in the Albany and Troy markets, now oblige the producers in this neighborhood to sell at their prices. They do this by sending their agents through the New-York markets, after the sales for the city are principally closed for the day, and buying up such as are left at low prices—then making the producers here submit to corresponding prices, they control the markets. Mr. M. states that from 100 to 150 dollars' worth per day are brought here from New-York during the strawberry season. There should be enough raised here to establish prices, independent of the dealers who only purchase to sell again. *Cultivator.*

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TORENIA ASIATICA.—This new plant (figured in May number,) is far more beautiful in its blossom than any engraving can represent. It is a combination of the softest dove-color, with the richest dark purple, in the same flower, and richly deserves a place in the collection of every amateur. Yours,—*R. P. Philadelphus, jr.*

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MILDEW ON FOREIGN GRAPES.—Early in July, dust sulphur on the floor of the grape-house, to prevent mildew; to be effectual, one pound should be used for every twenty square feet of the house. If the mildew should make its appearance, and continue to increase, syringe the vines at evening, and dust the foliage also with it.

NATHANIEL SILSBEE, Jr., Esq. informs me that, in his graperly, which is a cold house, he covers the floor twice, every summer, with the sulphur, and recommends its application in the middle of the day, as, at that time, part of it will rise and settle on the vine, but in such small particles as to do no injury. He has found this effectual in preventing mildew. If the fungus makes its appearance before the sulphur is applied, it will be more difficult to suppress its growth. It has sometimes been very troublesome in late houses, and I have had to dust the foliage and fruit before it was checked, and the quantity used was much greater than that named above. In early houses I never have it.

Mildew is a fungus, which perfects its seed in a very short time, and spreads rapidly over the fruit and foliage if not destroyed. *Allen's Treatise on the Vine.*

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THE SOIL ABSORBS ODORS.—It is well known that onions, if buried in the earth for a few days previous to being cooked, will have lost much of their rank flavor. Wild ducks which are often too fishy in flavor to be good, may be rendered much more palatable by being wrapped in absorbent pa-

per and buried in the ground for a few hours. Dried codfish loses much of its austerity of flavor (if we may coin a term) by similar treatment. During the plague in Europe, clothing was often buried for a time, to disinfect it. This absorbent property of the soil is due to the presence of carbonaceous matters; for clean sea beach sand will produce no such results, while pulverized charcoal will act with much greater energy than common soil. On this principle, animal matter, coated with unleached ashes, and then buried in pulverulent peat or muck, will not only decompose without giving off offensive odors, but the muck will also, by absorbing the resulting gases arising from decomposition, be rendered highly valuable as a fertilizer. Dr. Dana says that a dead horse, if cut in pieces and treated as above, will render twenty loads of muck equal in quality to the best stable manure. *Southern Planter.*

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EVERGREENS.—As to the best time for transplanting evergreens, there has been much said first and last; nor do we think the public mind clear on the subject as yet. We do not pretend to understand as well which is, as which is not, the best time. A class of writers have uniformly directed to move them in early summer, when they were in full growth; affirming that then the tree would best overcome the debility caused by removal. We have learned this much, that such a time is probably the worst that could be selected. It is certainly very far from being the best. Evergreens removed at that season, will exhibit the wilting of the tender shoots, even on a wet, cloudy day; nor will a ball of earth removed with the roots, serve to mitigate the difficulty. Such trees can only be saved by the most unremitting care and labor.

We are of opinion at this time, that evergreens are no exception to the rules which regulate the removal of deciduous trees—and that the best time to move them will be found to be that in which other trees are moved. Transplanting may, perhaps, be continued later than with others, because they do not begin their growth quite as early; but as soon as the new shoots begin to appear, it is time to stop work among them.

Another standing error regarding evergreens is, that they must not be pruned on removal. All the reason we ever heard given, is, that they exude gum. If any body should ask—"What if they do exude gum?" we should only be able to give the answer made by the speaker of the legislature of Hull. The said speaker had found his fellow legislators disposed to be unruly. His only mode of quelling the disturbers was to threaten "to name them." This was, for many a year, sufficiently potent. Finally a member ventured to ask the speaker what would be the effect if he did "name one?" "Heaven only knows," said his dignity, "I don't."

We do not suppose evergreens any exception to other trees in regard to the practice to be followed with them, either as to the time of removal, or as

to the fact of trimming. The mode of cutting should be somewhat different from that practiced with deciduous trees. They do not push out shoots so easily from the trunk; and it would not be safe to cut them as close. The best mode of trimming, would be that of shortening the branches; cutting off half or two-thirds their length, as should be preferred. This is also the best mode of trimming small deciduous trees; but in removing larger ones, such as are taken from the forest for shade, it is necessary to practice cutting much more severely; unless they are taken from open ground, and dug up with extra care, so as to save as many roots as possible. If carelessly dug, such trees should be shortened from the top one-third or more, and all the side-limbs entirely removed, leaving them like bean poles.

This mode of treatment would probably be improper for evergreens, though we have never made any experiments with a view of ascertaining how much cutting they would bear.

In removing evergreens, or any other forest tree, it should be remembered that those which grow in open grounds, or near them—exposed to sun and air, will be much the best—supplied as these are with many more small roots than those grown in the shade of others.—*Prærie Farmer.*

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BOTANICAL COLLECTIONS IN NEW MEXICO, AND IN THE ROCKY MOUNTAINS.—The first part of the account of the collection of plants made in New Mexico, by Mr. Fendler, with the descriptions of the new species, critical remarks, and characters of other undescribed or little known plants from surrounding regions, is printed as the 1st article of the 4th vol. (new series) of the *Memoirs of the American Academy*, now in press; and separate copies (of one hundred and sixteen pages quarto) are distributed to the subscribers to Fendler's collections. We wish to solicit further encouragement to this adventurous explorer, in the way of subscriptions to his collections. Several sets of the Santa Fe collection, in specimens of unrivalled beauty and completeness, are still in the hands of Dr. Gray at Cambridge, and of Mr. Heward at London, who may be applied to for them. Mr. Fendler is now on his way to explore the great interior basin between the Sierra Nevada of California, and the Rocky Mountains, especially around the Great Salt Lake, the Utah Lake, and the adjacent mountains. The collections are to be studied and distributed by Dr. Gray and by Dr. Engelmann, to whom those desirous to subscribe for them should apply, and will be issued at the same price as the Santa Fe collection, namely at ten dollars per hundred specimens.

In order that the botany of New Mexico should be further made known, particularly of the southern portion, Mr. Charles Wright is now on his way from Texas across to El Paso, on the Rio del Norte, a little below lat. 32°, in the vicinity of which, and especially in the mountains east and west of the valley, he will collect during the present season;

and the following year he proposes to extend his explorations, as opportunities offer, into other parts of the country, yet untrudged by botanists. Sets of the plants he may collect will be offered to subscribers, in the order of their application, at the same price as those of Fendler.—*Silliman's Journal*.

ANSWERS TO CORRESPONDENTS.

NAMES OF FRUITS.—*A Cleveland Subscriber*. The strawberry known in Ohio as the *Lafayette*, is the Prolific Hautbois of English and American writers.—*F. K. Phoenix*, (Delavan, Wis.) Your apple is, we presume, the Pomme Royale. It will, no doubt, surprise you to learn, that though no pear has been received from so many sources, or procured with so much pains-taking, as "Knight's Monarch," yet there is not, we imagine, a pomologist in America who as yet feels certain that he has the genuine variety. There is certainly a very mysterious something about the English reputation of this fruit.

ROSES.—*P*. Perpetual roses flower well on their own roots, if the soil is made deep, and the plants are headed back once or twice every season. Make the soil rich, as they flower only on the strong new wood. They are, to our thinking, by no means so satisfactory, or such abundant bloomers, as the Bourbon roses.

SPECIAL MANURES.—*M. J. S.*, (Boston.) As oyster shells are chiefly carbonate of lime, of course they are valuable applications to all trees requiring lime. They should be well broken up before using them. We would advise you to give your walnut grove a plentiful top-dressing of guano now, and of ashes next spring. Probably Prof. EMMONS, of Albany, can give you the correct analysis of this tree.

EVERGREEN HEDGES.—*A Tyro*, (New-Bedford.) The most beautiful and perfect evergreen hedge we have yet seen is one of hemlock, near Philadelphia. It bears the shears perfectly, and is as close as a green wall,—with great delicacy of foliage on the outer surface.—*M. J. S.* The Arbor Vitæ may be cut or sheared in any form you desire; and if the plants are not thick and bushy when they are set, head them back one-third at once. They will grow in any good soil, and like a top-dressing of ashes or plaster occasionally. The finest Arbor Vitæ we have ever seen, grow on decomposed limestone. *Mulch* the

soil over the roots after transplanting, and they will then need little or no watering.

GERANIUMS.—*A Subscriber*, (Chaplin, Conn.) Plant the seeds early in the spring, in pots, and water them regularly every day till they come up. The cuttings root very freely at this season, if planted in a shaded spot, on the north side of a fence, and covered with a square box with an old sash over it,—if you have no better means at hand.

CHERRY STOCKS.—*A Delaware Sub.* Gather the seeds of the Mazzard (common English) cherry for stocks; the pie cherry does not take the bud freely. They should be planted as soon as gathered in drills, like peas, covered about an inch and a half deep. If left till spring, only a few will vegetate.

BUDDING.—You may bud any of the perpetual or tea roses on your climbing prairie roses; but the Bourbons are more beautiful and more permanent for this purpose.

An Inquirer, (Richmond, Va.) Bud plums immediately before the bark adheres; and you will succeed better if you tie with two separate bandages, so as to allow the upper one [i. e., that above the bud,] to remain on a fortnight longer than the lower,—as the newly inserted bud of this tree is apt to loosen itself at the top of the incision.

CAMELLIAS.—*A. B.*, (Princeton.) You have injured your Camellias by placing them in too hot sunshine. Their summer quarters should be rather shaded in aspect.

GRAPE INSECTS.—*W. Jones*, (New-York.) The small caterpillar which devours your grape leaves, is easily destroyed by strong soap-suds, thrown on them with a syringe.

LAWNS.—*B. R.*, (Boston.) What your lawn wants, to make it close and soft, is not only frequent mowing but frequent *rolling*, which we think even more necessary in this climate than in England.

HEDGES.—*C. H. Tomlinson*, (Schenectady.) The advantage of planting *two* rows, is to secure thickness at the bottom; but, with good soil and strict attention to cutting back the plants the first three years, a single row will answer perfectly well. You must allow at least 18 inches between the hedge and your fence, or you will not be able to get the branches to grow thick on the side next the fence. (Your letter miscarried, or it would have been answered sooner.)

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated monthly meeting of this Society, was held on Tuesday evening, June 19, 1849. The President in the chair. The exhibition on the occasion presented unusual attractions from the rarity, variety and beauty of the many objects shown: not the least so, was a very thrifty and extended specimen of the *Torenia asiatica*; displaying its hundreds of rich flowers of velvety purple and bluish white tints over a circular area of nearly ten feet diameter, this plant was grown to these dimensions in four months, from a diminutive specimen taken from a thumb pot, by James Bisset, gardener to James Dundas; who also exhibited a fine specimen of the Elephant's foot—*Testudinaria elephantipes*, for the first time, and others. And a fine tall specimen of the *Stigmaphyllon ciliatum*, attracting attention from its fringed yellow flowers, and *Plumbago larpatæ*, both of recent introduction, and for the first time shown, a beautiful large flowering Stanhopia, and several of the choicest Fuchsias, exhibited by Robert Buist. The President's gardener had a table of choice flowering plants; Miss Gratz' gardener a fine collection; and John Lambert's gardener a beautiful array.

On the fruit table were seen, some half a dozen very large clusters of White Portugal grapes in perfection, from the green-house of Samuel W. Gumbes, Oakhall, Montgomery county—very creditable to the gardener; and very fine bunches of Black Hamburg, Muscat blanc hative, and Chasselas de Fontainebleau, also four varieties of peaches, very good, one of which measured nine inches in circumference, all from the green-houses of the President. There were also luscious grapes and peaches from James Dundas' fine collection.

The following premiums were awarded at the intermediate meeting held June 5, 1849.

The committee on fruits respectfully report that amongst some excellent Strawberries displayed this evening, they would particularly notice Hovey's Seedling, by Joseph J. Hatch, Camden, N. Y., for which they award the first premium; and for Methven Scarlet by P. Gallagher, Miss Gratz' gardener, they award the second premium; they also notice a good display of the same variety by Isaac C. Baxter; and a fine dish of Figs from the collection of James Dundas.

On the present occasion, the committee on fruits report the following awards:—For the best 3 bunches of Grapes, Black variety, (Black Hamburg), to Ben. Daniels, gardener to C. Cope. For the best 3 bunches of Grapes, White variety (White Portugal), to Frederick Wolf, gardener to S. W. Gumbes, Oakhall, Montgomery Co. For the best three pounds of cherries (Maydukes), to Isaac B. Baxter; for the second best do., (late Duke.) to the same; for the third best do., (Early Richmond), to Wm. Hobson. The committee also give a special premium of two dollars each for displays of fine Peaches, to Ben. Daniels, gardener to C. Cope, and James Bisset, gardener to James Dundas.

Report of the committee on plants and flowers for the stated meeting held on the 19th June, 1849.

For the best Pinks, 6 varieties, to Wm. Hobson. For the best 3 hot-house plants, to James Bisset, gardener to James Dundas; for the second best do., to Robert Buist. For the best 3 green-house plants, to Robert Buist; for the second best do., to Ben. Daniels, gardener to C. Cope. For the best collection of plants in pots, to Ben. Daniels; for the second best do., to P. Gallagher, gardener to Miss Gratz; for the third best do., to Maurice Finn, gardener to John Lambert. For the best Bouquet, to Maurice Finn; for the second best do., to Robt. Kilvington. For the best Bouquet of indigenous flowers, to Thomas Mehan. For the best basket of Cut flowers, to Ben. Daniels; for the second best basket, to Maurice Finn. For the best basket of indigenous flowers, to Robert Kilvington. Your committee recommend a special premium of five dollars to James Bisset, gardener to Jas. Dundas, for a very splendid specimen of that most beautiful and rare plant, the *Torenia asiatica*—also a premium of two dollars to Wm. Hobson, for a basket containing 32 distinct varieties of beautiful cut garden Roses.

Report of the committee on vegetables, for the stated meeting, June 19.

For the best six heads of Artichokes, to Pat Gallagher, gardener to Miss Gratz. For the best display of vegetables by market gardeners to Anthony Felten; for the second best display, to the same; for the best display by amateurs to Ben. Daniels; for the second best display, to John Austin,

gardener to Isaac B. Baxter; for the third best display, to P. Gallagher. The committee also award a special premium of one dollar for a fine display of Turneps, to Anthony Felten. They also notice specimens of a new vegetable called "Shanghai," grown from seed presented to the Society. The treasurer submitted his semi-annual statement of accounts, which was referred.

G. Craig Heberton, M. D., was elected a member.

Objects shown.—At the intermediate meeting, June 5. By Joseph J. Hatch, Hovey's and Boston Pine Strawberries. By Isaac B. Baxter, Methven Scarlet Strawberries. By P. Gallagher, gardener to Miss Gratz, Methven Scarlet and Baltimore Strawberries. By James Bisset, gardener to James Dundas, a dish of fine Figs. A fine ripe Peach from the President's green-house. By Wm. Johns, vegetables—Rhubarb, Beets and Beans.

Immediately.—By Morris & Stokes, nurserymen, West Chester, Pa., Strawberries of the following varieties—Victoria, Burr's New Pine, Taylor's Seedling, Black Prince, Iowa, Early Scarlet, Alice Maude, Aberdeen Beehive, Boston Pine, Princess Royal, Ross' Phoenix, Bourbon Pine, Methven Scarlet, Hovey's and Wood.

At the evening's display. *Plants*, by James Bisset, gardener to James Dundas, *Torenia asiatica*, a very fine growing specimen, *Testudinaria elephantipes*, Elephant's foot or Hottentot's bread, a very singular plant, *Justicia carnea* major, a very large plant, *Clerodendron coccinea*, *Ferraria anthrosea*, and *Gesneria* sp.

By Robert Buist, Robert Scott, foreman—*Stigmaphyllon ciliatum*, *Plumbago larpatæ*, new plants and shown for the first time, *Torenia asiatica*, *Fuchsia gigantea*, F. Clara, F. coronet, very handsome plants; *Stanhopia grandiflora*, *Cuphea platycentra*, *Gladioli*, Buist's Seedling.

By Ben. Daniels, gardener to C. Cope.—*Russelia juncea*, *Acropera loddigesii*, *Epidendrum cochleatum*, *Gongora atro-purpurea*, *Gloxinia cerina*, G. hirsuta, *Pentus carnea*, *Sempervivum urbium*, *Torenia asiatica*, *Ceropegia stapeliiformis*, *Swainsonia galogifolia*, *Achenemes grandiflora*, A. longifolia, A. picta, A. pedunculata, *Fuchsia chauerii*, F. delicata, F. napoleon, F. mirabilis, F. Sir H. Pottinger, F. exquisita, *Oncidium flexuosum*, *Hydrangea japonica*, and cut flowers of *Cereus grandiflorus*.

By Maurice Finn, gardener to John Lambert—*Pentus carnea*, *Rondeletia speciosa*, *Gloxinia rubra*, S. sp. *Cyrtoceras reflexa*, *Manettia bicolor*, *Fuchsia mirabilis*, F. exoniensis, F. chauerii, F. rosea alba, F. conspicua arborea, *Gnaphalium orientale*, *Pentunia* sp., *Plumbago rosea*, *Calceolaria meteor*, C. angustifolia, *Tweedia cerulea*, *Streptocarpus rexii*, *Pelargonium* and *Mitholæ* in variety.

By Patrick Gallagher, gardener to Miss Gratz—*Cereus speciosissimus*, *Hoya carnea*, *Azalea danieliana*, *Calceolaria meteor*, *Cereus speciosa*, *Fuchsia* 8 varieties, *Pelargonium* 8 varieties, &c.

By Wm. Hobson, Pinks and Garden Roses.

By P. Burke, gardener to J. Longtrith, Seedling Pinks.

Bouquets.—By Maurice Finn, Robt. Kilvington, P. Gallagher, James Bisset, P. Burke and Thomas Mehan; 2 Indigenous Baskets, by B. Daniels, R. Kilvington and Maurice Finn, and R. Kilvington a very interesting indigenous one.

Fruit.—By Fred. Wolf, gardener to S. W. Gumbes, Oakhall, Montgomery Co., 6 bunches of very fine White Portugal grapes.

By Ben. Daniels, from President's collection of Grapes, Black Hamburg, Muscat blanc hative, and Chasselas Fontainebleau, 3 dishes of Peaches, 4 varieties Strawberries white and red, and Gooseberries.

By James Bisset, gardener to James Dundas, very fine Peaches and Grapes.

By Isaac B. Baxter, Mayduke and Late Duke Cherries, and Gooseberries.

By Wm. Hall, Strawberries, 2 varieties.

By Wm. Parry, Strawberries, Crimson Cone.

Vegetables.—By Anthony Felton, a fine display.

By Ben. Daniels, gardener to C. Cope, in variety.

By P. Gallagher, gardener to Miss Gratz, a fine collection.

By John Austin, gardener to Isaac B. Baxter, a good display.

By Maurice Finn, gardener to John Lambert, a fine table.

On motion adjourned.

THOS. P. JAMES,

Sec. Secretary.



JOURNAL OF RURAL ART AND RURAL TASTE.

VOL. IV.

AUGUST, 1849.

No. 2.

ALL TRAVELLERS agree, that while the English people are far from being remarkable for their taste in the arts generally, they are unrivalled in their taste for landscape gardening. So completely is this true, that wherever on the continent one finds a garden, conspicuous for the taste of its design, one is certain to learn that it is laid out in the "English style," and usually kept by an English gardener.

Not, indeed, that the south of Europe is wanting in magnificent gardens, which are as essentially national in their character as the parks and pleasure-grounds of England. The surroundings of the superb villas of Florence and Rome, are fine examples of a species of scenery as distinct and striking as any to be found in the world; but which, however splendid, fall as far below the English gardens in interesting the imagination, as a level plain does below the finest mountain valley in Switzerland. In the English landscape garden, one sees and feels everywhere the spirit of *nature*, only softened and refined by art. In the French or Italian garden, one sees and feels only the effects of *art*, slightly assisted by nature. In one, the free and luxuriant growth of every tree and shrub, the widening and curving of every walk, suggests

perhaps even a higher ideal of nature,—a miniature of a primal paradise, as we would imagine it to have been by divine right; in the other, the prodigality of works of art, the variety of statues and vases, terraces and balustrades, united with walks marked by the same studied symmetry and artistic formality, and only mingled with just foliage enough to constitute a garden,—all this suggests rather a statue gallery in the open air,—an accompaniment to the fair architecture of the mansion, than any pure or natural ideas of landscape beauty.

The only writer who has ever attempted to account for this striking distinction of national taste in gardening, which distinguishes the people of northern and southern Europe, is HUMBOLDT. In his last great work—*Cosmos*—he has devoted some pages to the consideration of the study of nature, and the descriptions of natural scenery,—a portion of the work in the highest degree interesting to every man of taste, as well as every lover of nature.

In this portion he shows, we think, very conclusively, that certain races of mankind, however great in other gifts, are deficient in their perceptions of natural beauty; that northern nations possess the love of nature much more strongly than those of the south;

and that the Greeks and Romans, richly gifted as they were with the artistic endowments, were inferior to other nations in a profound feeling of the beauty of nature.

HUMBOLDT also shows that our enjoyment of natural landscape gardening, which many suppose to have originated in the cultivated and refined taste of a later age, is, on the contrary, purely a matter of national organization. The parks of the Persian monarchs, and the pleasure-gardens of the Chinese, were characterized by the same spirit of natural beauty which we see in the English landscape gardens, and which is widely distinct from that elegant formality of the geometric gardens of the Greeks and Romans of several centuries later. To prove how sound were the principles of Chinese taste, ages ago, he gives us a quotation from an ancient Chinese writer, LIEU-TSCHEU, which might well be the text of the most tasteful improver of the present day, and which we copy for the study of our own readers :

"What is it," says LIEU-TSCHEU, "that we seek in the pleasures of a garden? It has always been agreed that these plantations *should make men amends for living at a distance from what would be their more congenial and agreeable dwelling place—in the midst of nature, free and unconstrained.* The art of laying out gardens consists, therefore, in combining cheerfulness of prospect, luxuriance of growth, shade, retirement and repose ; so that the rural aspect may produce an illusion. Variety, which is the chief merit in the natural landscape, must be sought by the choice of ground, with alternation of hill and dale, flowing streams and lakes, covered with aquatic plants. *Symmetry is wearisome; and a garden where everything betrays constraint and art, becomes tedious and distasteful.*"

We shall seek in vain, in the treatises of modern writers, for a theory of rural taste more concise and satisfactory than this of the Chinese landscape garden.

Looking at this instinctive love of nature as a national characteristic, which belongs almost exclusively to distinct races, HUMBOLDT asserts, that while the "profoundest feeling of nature speaks forth in the earliest poetry of the Hebrews, the Indians, and the Semitic and Indo Germanic nations, it is comparatively wanting in the works of the Greeks and Romans."

"In Grecian art," says he, "all is made to concentrate within the sphere of *human* life and feeling. The description of nature, in her manifold diversity, as a distinct branch of poetic literature, was altogether foreign to the ideas of the Greeks. With them, the landscape is always the mere background of a picture, in the foreground of which human figures are moving. Passion, breaking forth in action, invited their attention almost exclusively ; the agitation of politics, and a life passed chiefly in public, withdrew men's minds from enthusiastic absorption in the tranquil pursuit of nature."

On the other hand, the poetry of Britain, from a very early period, has been especially remarkable for the deep and instinctive love of natural beauty which it exhibits. And here lies the explanation of the riddle of the superiority of English taste in rural embellishment ; that people enjoying their gardens the more as they embodied the spirit of nature, while the Italians, like the Greeks, enjoyed them the more as they embodied the spirit of art.

The Romans, tried in the alembic of the great German *savan*, are found still colder in their love of nature's charms than the Greeks. "A nation which manifested a marked predilection for agriculture and

rural life might have justified other hopes ; but with all their capacity for practical activity, the Romans, in their cold gravity and measured sobriety of understanding, were, as a people, far inferior to the Greeks in the perception of beauty, far less sensitive to its influence, and much more devoted to the realities of every day life, than to an idealizing contemplation of nature."

Judging them by their writings, HUMBOLDT pronounces the great Roman writers to be comparatively destitute of real poetic feeling for nature. LIVY and TACITUS show, in their histories, little or no interest in natural scenery. CICERO describes landscape without poetic feeling. PLINY, though he rises to true poetic inspiration when describing the great moving causes of the natural universe, "has few individual descriptions of nature." OVID, in his exile, saw little to charm him in the scenery around him ; and VIRGIL, though he often devoted himself to subjects which prompt the enthusiasm of a lover of nature, rarely glows with the fire of a true worshipper of her mysterious charms. And not only were the Romans indifferent to the beauty of natural landscape which daily surrounded them, but even to the sublimity and magnificence of those wilder and grander scenes, into which their love of conquest often led them. The following striking paragraph, from HUMBOLDT'S work, is at once eloquent and convincing on this point :

"No description of the eternal snows of the Alps, when tinged in the morning or evening with a rosy hue,—of the beauty of the blue glacier ice, or of any part of the grandeur of the scenery in Switzerland,—have reached us from the ancients, although statesmen and generals, with men of letters in their train, were constantly passing from

Helvetia into Gaul. All these travellers think only of complaining of the difficulties of the way ; the romantic character of the scenery seems never to have engaged their attention. It is even known that JULIUS CÆSAR, when returning to his legions, in Gaul, employed his time while passing over the Alps in preparing a grammatical treatise, 'De Analogia.'"

The corollary to be drawn from this learned and curious investigation of the history of national sensibility and taste, is a very clear and satisfactory one, viz: that as success, in "the art of composing a landscape," (as HUMBOLDT significantly calls landscape gardening,) depends on appreciation of nature, the taste of an individual as well as that of a nation, will be in direct proportion to the profound sensibility with which he perceives the Beautiful in natural scenery.

Our own observation not only fully confirms this theory, but it also leads us to the recognition of the fact, that among our countrymen, at the present day, there are two distinct classes of taste in rural art ; first, the poetic or northern taste, based on a deep instinctive feeling for nature ; and second, the artistic or symmetric taste, based on a perception of the Beautiful, as embodied in works of art.

The larger part of our countrymen inherit the northern or Anglo-Saxon love of nature, and find most delight in the natural landscape garden ; but we have also not a few to whom the classic villa, with its artistic adornments of vase and statue, urn and terrace, is an object of much more positive pleasure than the most varied and seductive gardens, laid out with all the witchery of nature's own handiwork.

It is not part of our philosophy to urge

our readers to war against their organizations, to whichever path, in the "Delectable Mountains," they may be led by them; but those who have not already studied

Cosmos will, we trust, at least thank us for giving them the key to their natural bias towards one or the other of the two worldwide styles of ornamental gardening.

POMOLOGICAL NOTES FROM MISSISSIPPI.

BY DR. PHILIPS, EDWARDS, MISS.

DEAR SIR—You request me to give you some memoranda of my fruit culture. I do so with pleasure, with the hope that the good cause will be promoted thereby, and my southern friends have a little more light.

You know I have a very extensive variety of fruits, and that I have tried to get the best. My object has been, to have the best for my own use, and to test here the largest variety that I could.

Of peaches, I have been able to prove, down to the present time, the following; and I give my opinion of their relative value:

1. *White Nutmeg*.—Too small for any use, and tree too small a bearer.

2. *Early Tillotson*.—A few days before the succeeding, ripens finely, is a beautiful peach, and only inferior to the true Early York. Tree healthy; no mildew, rapid grower, and bears better than Early York.

3. *Early York*—(true, serrate leaves).—Is one of the highest flavored peaches I know—equally as pretty as No. 2—rather preferred by me for flavor; but the fruit rots too much. Two years' experience with both.

4. *Early Admirable*.—Beautiful and good. Nos. 2 and 3 better in flavor.

5. *Cole's Early Red*.—This is also beautiful, not so large as the others, fine flavored and rich juice. Not so good as Nos. 2 and 3.

6. *Elmira*.—A large fruit, measuring 8

inches in circumference, (the others 6 to 7,) equally as fine, of good flavor, and worthy of culture. It originated here, the seed planted by myself; but where I got it from I am not positive. It is universally pronounced to be the handsomest and largest peach that ripens before this date. And I am informed that in Vicksburgh it is rated equally high. Indeed, there is some disposition to take from me the credit; but I can prove its origin satisfactorily.

7. *Strawberry*.—Small, and not worthy of culture, where Nos. 2, 3, 4, 5 and 6 can be had.

8. *Yellow Alberge*.—Same as No. 7, as to quality, &c.

9. *Early York*.—The common variety—ripens a few days after the true, is good, but not so high flavored as Nos. 2 and 3.

10. *Burgess' Beauty*.—This fruit is beautiful and good. I am inclined to think it is "Red Rareripec," as it answers the description in your work, and ripens six or eight days after Nos. 2 and 3.

I have some others, *now ripe*, and will write you again.

I think I can recommend No. 2, ripening at this place, this year, say 6th June. No. 3 ripe same day. No. 6, as ripening about same time, but usually ten days before No. 3. No. 10, as coming in a week after, and good enough for any one. Thus would I discard six varieties; as these are better, and ripe at same time.

Of apples, I have had *White Juneating*;

but it is Early Red Margaret, I think. Yellow Harvest; May—this is the 2d one, I think; Sweet Bough; Red June; Summer Queen, and another, larger than any except the 2d, striped, but not so good.

The Summer Queen I have, has no blush. It resembles, very closely, the Yellow Harvest. [This is not Summer Queen. Ed.]

I would only recommend Yellow Harvest—yellow; Red June—quite red, and Sweet Bough*—beautifully striped; all ripe about the same day, say June 6.

I have fruit from so many sources, that I find some uncertainty, at least in name; but when using your names, I then allude to the varieties that bear your test,—“Fruit and Fruit Trees of America.”

I have a few pears, but too few to judge from; and the frost of the 16th of April did

some injury to them. In several instances, the pears dropped in a few days after.

Although the frost of the 16th of April would seem to have put the season back, yet the remarkably dry and warm month of April has hastened fruit to maturity, so that the Elmira that has ripened here, some four or five years, usually 15th to 30th June, has ripened here by the 5th this year. Early York usually 1st of July, ripened also 6th June.

I have had roasting ears from the corn-field since the 11th. A few cotton blooms were seen yesterday,—only one week later than last year; but my cotton was not killed by the spring frost, though no one nearer than eight or ten miles was so favored. With great respect, I am yours,

M. W. PHILIPS.

Edwards, Miss., June 14, 1849.

NOTES ON THE BEST STRAWBERRIES.

BY G. W. HUNTSMAN, FLUSHING, L. I.

DEAR SIR—Now that another strawberry season is past, it may be interesting to make some remarks upon such kinds as have proved superior. Last summer, *Burr's New Pine* was much praised by those who had it in fruit. With me, it has again fully sustained its previous high character. It is not so large as Hovey's Seedling, or the Boston Pine; but then its productiveness and delicious spicy flavor, in which it is unrivalled, added to its early maturing, (being quite as early as the Early Scarlet,) more than compensate for its inferiority in size, and make it decidedly the most desirable strawberry in cultivation.

It is also a vigorous growing plant;

* Sweet Bough is never striped; it is probably Early Strawberry. Ed.

enough so to admit of being cultivated in separate stools, which is by far the most elegant mode of culture, especially in private gardens, where the soil can be made deep and rich; as by this mode, the ground can be covered with straw or litter, which will serve the double purpose of keeping it moist, and the fruit clean.

Next to *Burr's New Pine*, I consider *Hovey's Seedling* the most desirable, which, as it ripens about ten days later, cannot be entirely superseded by it. *Hovey's Seedling* does sometimes *burn out*. This can be remedied by deepening the soil, and keeping the plants in a high state of cultivation. In a moist, loamy soil, I do not find it to burn. As I have previously remarked, this variety, to attain perfection,

must be cultivated either in hills or drills, to admit the free access of the sun.

The Boston Pine has succeeded better with me this season than last. It requires high cultivation and plenty of room. Though the fruit is large and good, yet I think, as a fructifier, the Large Early Scarlet, as regards a crop of fruit, the more reliable.

As a market fruit, I consider the *Crimson Cone* a valuable kind. It is productive,

and bears carriage better than most other kinds. It is one of the very best kinds for preserves. If any of our varieties will succeed in the south, this is the most likely to do so; for it is the most hardy and *tough*. Last summer was unusually severe on the strawberry plant; and while other kinds burnt more or less, this continued to grow, and to throw out numerous runners.

G. W. HUNTSMAN.

Flushing, L. I., July 14, 1849.

PAVING TO PREVENT CURCULIO.

BY L. F. ALLEN, BUFFALO, N. Y.

A. J. DOWNING—*Dear Sir*: The depredations of the curculio have almost destroyed our plum crops in western New-York. Until four or five years ago, my own trees bore abundantly, of the finest fruit of all the varieties which I cultivate; but this destructive insect has been so rapidly increasing in my grounds, that last year I hardly had, from fifty or sixty thrifty trees, half a bushel of matured fruit of the *fine* varieties; and none came to perfection except the common blue, or Horse plum, which, for a table fruit, is hardly worth cultivation. Even the Green and Yellow Gages, which have usually withstood the depredations of the curculio, yielded to its rapacity, and left me *plumless*. Since I have been so pestered with these insects, I have tried several remedies which have been published in the different periodicals, and found none efficacious. Salt is of no use. Thumping the tree proves of little avail, besides being a perpetual labor; and picking up curculios, which hop about like fleas, while you are shaking them together on a sheet, seems after all but a *puttering*

business; and as for planting every tree over a dung-heap, that is quite out of the question. Neither does letting the chickens or pigs run among them answer the purpose. The curculio thrives in spite of them.

For some years past, I have heard of the plan of paving under the trees; and one or two gentlemen of my acquaintance, who tried it in one or two individual cases, believed it to be efficacious. An instance of this kind has recently come to my notice, which seems so conclusive that I think it worthy of notice. Being at Lockport last week, I called to see my old friend, Lyman A. Spalding, Esq., who has a fine fruit orchard and garden just out of the village. His soil is a sandy loam, slightly mixed with clay—just enough to give it consistency—based on a coarse sand, with occasional veins of clay subsoil, in a limestone region; a charming soil for all kinds of fruit,—as those he has in cultivation, several hundred in number, testify. Mr. Spalding is a good pomologist, and pays great attention to his fruits; and suffering se-

verely by the depredations of the curculio, four years ago he paved part of a row of plum and apricot trees, which stood twelve feet apart, with thin flat stones, which are abundant and cheap in that vicinity. The flagging was continuous through the row as far as it extended, and spread six feet each side from the stems of the trees. The consequence has been, an effectual cure for the curculio upon the *paved* trees, both plums and apricots, ever since he put the flagging down, which has been for three successive crops; while on the trees which were left *unpaved*, the fruit has been regularly destroyed in every one of those years. So fully has he become satisfied of the efficacy of the flagging system, that the present year he has paved his remaining trees, the fruit of which I examined, and found no sign of the curculio among it. The remedy appears to me conclusive. The insect can neither, if in the ground, dig up through the flagging, nor, if on the tree, when fallen, burrow into it, except through the seams of the stones or bricks which compose the pavement, which Mr. Spalding suggests should be filled with water lime grouting, or leached ashes. Indeed, he laid his stone flagging on a thin bed of leached ashes, spread under the trees, which is a lasting manure for their support. If, however, grass or weeds spring up between, a coating of salt, sown upon the flagging, will effectually cure the evil.

Now to the expense. Mr. Spalding's case, as Lockport affords large quarries of thin stone, which are extensively used in Buffalo and Rochester for paving purposes, the smaller, unmarketable pieces, one to two inches thick, which he uses, can be obtained for two to three dollars a cord, delivered at his gardens, and the chief expense is in laying them, which need not exceed fifty cents a tree; and a cord would

probably flag four or five trees. But as every one is not so eligibly situated, I will take bricks as a standard, which, according to locality, can be delivered at \$3 to \$4 per 1000. A brick of usual size, 8 by 4 inches, contains 32 superficial inches; $4\frac{1}{2}$ bricks, therefore, will pave a square foot. Suppose your plum trees are planted 12 feet apart,—they need not, I think, be paved more than four feet on each side the trunk of the tree. For if it be the fact, as is generally conceded, that the curculio passes up the body of the tree, that distance on each side will be sufficient. Let the flagging be continuous throughout the row, which will give 96 feet to each tree. This will consume 432 bricks, which, at \$4 a thousand, will be \$1.73. The paving can be done for 50 cents; costing, altogether, \$2.23 each,—not a large sum, when a bushel of choice fruit annually, worth two or three dollars, can be had from every tree so paved.

If the ground be in good condition, the flagging will not need to be taken up for manuring for many years; and nothing can be more friendly to the roots, in the way of moisture, than this flagging; for I never have seen thriftier trees than those grown in the paved streets of our cities and villages. The experiment is worth trying at all events; and if successful with others, as it has been with Mr. Spalding, it is certainly worth universal adoption.

Yours very truly, LEWIS F. ALLEN.

Black Rock, June 23, 1849.

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This is an excellent mode, which has been practiced successfully in the neighborhood of New-York and Philadelphia; but the hint will, no doubt, be both new and valuable to the larger part of our readers.

We still think that pigs and poultry are the cheapest and most serviceable preventives to the curculio, when the trees can

be planted in yards which are thoroughly *investigated* by them. There are doubtless cases where, from incomplete arrangements, this mode may have failed, as, indeed, we have known paving to do; but in all instances, where thoroughly carried out and persevered in, it will be found an efficient and cheap mode. Meanwhile, paving is nicely adapted to the amateur's garden. ED.

HOW TO MANAGE FRUIT TREES.

BY A PENNSYLVANIA SUBSCRIBER.

I HAVE gained two pieces of information from your journal, which I consider invaluable; and as I fear some of your readers may not have been so much struck with their importance as myself, I shall venture a few words to call attention.

I allude to the absolute necessity, in this climate, of shading the trunks of fruit trees; and the no less important fact, that the mulching the soil greatly promotes the health, and vigor, and longevity of a tree.

My eyes were first opened to the great value of *protecting the trunks* of trees, by allowing the trees to form *low heads*, as close to the ground as possible, by reading the masterly article on "Vitality and Longevity of Trees," by Professor TURNER, at page 130 of the last volume of your journal. That able correspondent proves, conclusively, to my mind, (and I have by many observations since very fully verified his theory,) that just in proportion to the heat of the climate the trunk of a tree needs shelter; that in a state of nature, all trees which grow alone, and not in woods, where they are sheltered by others, put out branches near the surface, so as to hide and shelter the trunk; and finally, that all fruit trees would do the same if left to themselves, and not continually mutilated and robbed of their fairest proportions by the saw and knife of the "trimmer."

What, indeed, can be more rational. A

few days since, we had four successive days when the mercury in Fahrenheit's thermometer stood above 90 degrees all day long in the shade. I took the trouble to hang the glass at midday against the trunk of a peach tree in the full sunshine, when, to my surprise it rose to 130 degrees. Now it is next to impossible that the sap-vessels should not become almost baked; and it is not a matter of the slightest surprise to me, that we find the trunk and principal branches oozing out *gum*, and the tree looking feeble and sickly.

Nature has fitted the upper surface of *leaves* to bear the most powerful sunshine; and the constant perspiration through this upper surface of the foliage keeps them comparatively cool. But it is not so with the bark; and if the stem of a delicate tree is exposed to those intense rays of the sun, feebleness or disease must inevitably follow.

I have had a striking proof of this truth before my eyes the past month. Bordering my garden walk are two rows of fruit trees,—each row containing six apricots and twelve peaches. They were both planted five years ago. One of these rows has been headed back, so as to keep the trees quite bushy and low,—the lower branches starting out within a few inches of the ground. (This was done to test more completely the value of the shorten-

ing-in pruning, and before I knew the value of shading the roots.)

The other row has been grown in the usual way,—as standards; that is, the trees have been trimmed nearly as high as one's head, so as to leave the trunk and lower branches fully exposed to the sun for a good part of the day.

The difference between those two rows of trees is a very remarkable one, even to the general observer. The low headed trees, in the first place, are unusually full of foliage; the leaves themselves are large, and the shoots luxuriant; and the trees have that dark green look, which is the unmistakable sign of good health. The crop of fruit is healthy, hangs on well, and promises to be large and excellent.

The high-headed trees, whose trunks are exposed, are some few of them in excellent health; but none of them compare in richness of foliage with the low-headed ones; and about two-thirds of them have a stunted and feeble appearance. Two of the peaches, and three of the apricots have died with "gum;" and they all show a meagre growth, when contrasted with those

in the other row. Besides, I find, since the two "spells" of very hot weather that have occurred this summer, these bare stemmed trees are gradually shedding a considerable portion of their fruit.

To satisfy myself more completely of the positively injurious effect of the sun on the trunks of trees, and on the roots where the soil is not shaded by the spreading branches, I covered the ground beneath one of these bare stemmed trees with litter four inches thick, and bound a few handfulls of straw around the trunk, to guard it from the sun.

I find this tree more healthy than any other in the row, making luxuriant shoots, and holding its fruit well, and not appearing in the least affected by our hot or dry midsummer.

I am, therefore, a warm advocate of the practice of giving all small fruit trees *low heads*, so as completely to shade both the trunk and the roots. And I offer you the foregoing facts for the consideration of your readers; [which we are certain they will profit by. Ed.] Respectfully,

A PENNSYLVANIA SUBSCRIBER.

THE GOOSEBERRY GRAFTED ON THE YELLOW FLOWERING CURRANT.

BY S. MILLER, NORTH LEBANON, PA.

SIR—I noticed an article in the Horticulturist on this subject, but at the time doubted its utility. What I have seen since, however, satisfies me that the thing will succeed admirably.

Last autumn I had occasion to get some trees of D. MILLER, near Carlisle, Pa., (I believe the discoverer of the value of this particular stock,) and, among other things, a neighbor of mine had from him gooseberry plants on the currant. It seemed to

me an insignificant matter, and would have escaped my memory, had I not been requested by him, a few days ago, to examine it.

The stock is about five feet high, a straight, clean stem, with about five branches, which have grown, some of them, six to ten inches this season; and such gooseberries as it then bore, cast all the result of my cultivation (along with whale oil, soap washing, and sulphur,) far into the shade.

The berries were much larger than any I ever have seen; and I have purchased many of the finest English and American varieties, and cultivated them after most approved modes; but in spite of all my care and pains, they will all mildew, except one variety, a rather small kind, which we got under the name of "Pale Red," which never mildews with us, and is an abundant bearer.

The kind of gooseberry above alluded to, on the currant, is the "Roaring Lion," and the fruit was as free from mildew as anything could be; while a bush close beside it, of the same kind, well trained and cultivated, but on its own stock and root, showed a crop pretty much mil-

dewed, and the fruit not half the size of the former.

In my opinion, it is the elevation as much as anything else, that prevents the mildew on the Missouri currant stock; as it is free from the shade and dampness, which the low heavy stocks are exposed to. I am undertaking pretty extensively the propagation of Missouri currant stocks to graft my gooseberries upon, and am strongly of the opinion that when this mode becomes generally known, it will greatly facilitate the extensive cultivation of the best English gooseberries. I will only add, that I have seen other instances besides the one quoted, and equally successful. Yours respectfully, S. MILLER.

THE MANAGEMENT OF GREEN-HOUSES.

[FROM THE LONDON HORT. MAG.]

ONE of the principal points to look after in the commencement of a greenhouse management, is to provide near it a room or shed in which all the littering business, such as potting, cutting down, pruning, shifting, and other dirty work may be done. In this there should be a strong table, a bin with several partitions, in which particular composts should be separately kept; these to be filled with—

1. Peat rubbed through a very coarse sieve.

2. Loam from rotted turfs.

3. Potsherds, or broken flower pots of two or three sizes, kept separate.

4. Leaf-mould, being leaves that have rotted into mould.

5. Dung from a melon or cucumber-bed rotted to mould.

6. Silver sand, or very clean river sand.

7. Cow-dung rotted into mould.

8. Turfy peat, merely chopped into small pieces, of say half-an-inch to an inch square or solid.

9. Loam from the top spit of a pasture, without the turf.

10. Horse droppings rotted into mould.

But if there be not convenience for all this, or they cannot be got at, peat (No. 1), loam (No. 2), potsherds (No. 3), and dung (No. 5), are absolutely necessary, and could be made shift with. Then there should be trowels; short blunt-ended sticks of different sizes, to poke down the soil round a plant when shifted from one sized pot to another; scoops like a coal-scoop, to take up the different soils, and by which the pots may be measured as they are taken; sticks of all lengths for supports to plants in pots; flower pots of various sizes, from those called *sixties* to the largest, called *ones*. These sizes comprise wide-mouthed and uprights, between which there is very little difference in the quantity of mould they will contain, but one is formed with nearly straight sides, the other wide at the top and tapering at the bottom, and of course there is a difference in the diameter across the top; there is also a different form, and a slight difference in the measure between one pottery and another. However, as the most general, and therefore the

guide for any who propose to follow our directions, the measure of the various sizes may be thus estimated, especially necessary perhaps, because some writers say three-inch, or six-inch pots, instead of sixties or thirty-twos. The measure runs thus:—

	Wide.	Deep
Thumb pots, sixty to the cast, are....	2½ in.	2½
Sixties, that is, sixty to the cast.....	3	3½
Forty-eights, forty-eight to the cast...	4½	5
Thirty-twos, thirty-two to the cast....	6	6
Twenty-fours, twenty-four to the cast..	8	8
Sixteens, sixteen to the cast.....	9½	9
Twelves, twelve to the cast.	11	10
Eights, eight to the cast.....	12	11
Sixes, six to the cast.....	13	12
Fours, four to the cast.....	15	13
Twos, two to the cast.....	18	14

Besides these, there should be a number of bell-glasses, of the sizes necessary for most of these pots, so that the edge of the glass should come half an inch within the edge; pruning and budding knives, and pruning pincers, a very handy instrument, by which a lady may, without exerting much strength, snip off a branch as thick as her little finger; bass matting in skeins or lengths should hang across nails all ready for use, for although the bass gets harsh and dry, it only requires wetting when used to make it tough. Everything should be ready for use without delay, for nothing is worse than to be obliged to leave a job to procure anything that may be wanting. Labels of wood or zinc of all proper sizes, and wooden ones, should be painted black, because when used they should be covered with white paint where the writing is to be placed, and a sharp-pointed stick will make a distinct mark through the white paint, showing the black underneath it; the white paint cannot be laid on too thin at the time the writing is to be done. Wire trellises for climbing plants of such sizes and shapes as are best adapted for the several species, and boxes or pans about six inches deep for the purpose of sowing seeds in, will be found requisite. A small nest of drawers for the preservation of seeds, as well for the borders as the house, and shelves for placing things on out of the way; watering pots of various sizes; a portable garden engine or syringe with roses of various sized holes for the distribution of the water in different degrees of

quantity and force. All these things are desirable, and anything short of this makes more work, although it is quite possible to do without any of them but the pots and the soils, and these, if the worst come to the worst, might be put in some corner out of doors. It is not our business to show how things *may be done*; we have shown how they *ought to be done*, and the nearer these conditions can be complied with, the better. We next come to the

CHOICE OF PLANTS.

As a greenhouse is, properly speaking, a house for the protection of plants from frost, and no more, and is the only description of house in hundreds of establishments, we look for a tolerably miscellaneous collection of different families, likely to make the best show and continue in the best health. A hundred families of plants would do well in a greenhouse, but nobody with any taste would try to grow a large number of families, but would more judiciously endeavor to grow a number of the best varieties in each family of more choice genera. And some few may be commenced with as the most eligible, while others may be left to be picked up as they may be met with and admired. The following are essential, because they can scarcely be beaten for effect:—

AZALEA INDICA, half a dozen varieties; CAMELLIA JAPONICA, the same number; GERANIUMS, the like number; HOVEA *Celsii* and *ilicifolia*; CHOROZEMA *varium* and *rhombicum*; ACACIA *armata*; EPACRIS *grandiflora*, *miniata*, *impressa*, and *campanulata alba*; BORONIA *serrulata*; CALCEOLARIA, six varieties; CEREUS *speciosissimus*; EPIPHYLLUM *Jenkinsonii* and *truncatum*; (the three latter better known as CACTUS *speciosissimus*, *Jenkinsonii* and *truncatus*); CINERARIA, six varieties; ORANGE, LEMON, and LIME; CROWEA *saligna*; CYCLAMEN *persicum*, and *persicum roseum*; DAPHNE *indica odorata*; ERICA, six varieties; FUCHSIA, six varieties; HYDRANGEA; IXIA, six varieties; TROPÆOLUM *tricolor*, *Lobbianum*, *azureum*; CRASSULA *coccinea* and *falcata*; CYTISUS *racemosus*; LILIUM *japonicum*, two varieties; VERBENA, six varieties; STYPHELIA *tubiflora*. Although we could mention plenty more, there are already mentioned

eighty-four pots, if there be only one of each variety; but these are all subjects that may rank high as rich and beautiful plants, blooming at different periods. If the greenhouse would hold more, and a lady is inclined to grow more species, instead of doubling some of these, let them be selected at nurseries according to fancy. If we had to recommend, we should say double the number of varieties of *Camellia*, *Erica*, *Cineraria*, *Fuchsia*, *Geranium*, *Calceolaria*, *Ixia*, *Verbena*, and *Azalea indica*; or if not the latter, have duplicates of each sort of the best six. Very few plants could be added with so much advantage to the collection, as increasing the varieties, or doubling those mentioned. We are to presume that these plants are purchased in nursery pots, and it must be taken as a general rule, that no plant must be kept in the nursery pot without examination. Our business, however, must be to take family by family, and so direct the fair cultivator, that no vast error can be committed.

STATE OF THE HOUSE.

The temperature of the greenhouse is important; a free ventilation is desirable, nay, absolutely necessary, but a current of air is to be avoided; it is as injurious to plants as to persons. Two doors opposite to each other should not be open, unless the weather is very still, and all the front windows are open also. In cold weather and when the wind is chilly, the door at the windy end should never be opened. It is better to open all the front windows in mild weather, unless the wind blows on them, when they are better closed, and the top lights let down a little. In very damp weather the fire should be lighted to dry the house, and the top lights be lowered to let out the steam. In frosty weather, when there is danger in leaving the house without fire, it should be lighted all day; and even in a frost the top lights may be down a little, but the glass must be watched, and at night, instead of making up extra fire and closing all the house to increase the temperature, have proper persons to attend, and to see that the house is not warmer, nor so warm if possible, as it was in the day. Thirty-five is high enough for the night, but few trust to it, because three

degrees lower is frost; forty-five is, however, quite as much as it ought under any circumstances to reach at night, for there is not one greenhouse plant that does so well with fire heat as without it, if there be no frost.

There are different dispositions and habits among the families we have mentioned, but they will all do well in the same house, by giving some the coolest and others the warmest place; but care should be always taken to have the house cooler by night than by day, whenever it is practicable. Nevertheless, there will be times when the severity of the frost, with a wind to assist it, will so lower the temperature, that all the fire you can give the house may be only sufficient to keep out the cold and prevent the temperature from going down to freezing point. As regards giving air, even in the height of summer, if there be plants in the house, there should be no thorough draught from end to end; let the top lights be down, and the front lights open, and then there is a circulation all over the tops of the plants, but no draught through them.

PLAN OF A STAGE AND SHELVES.

The front of the greenhouse is the most valuable part; a shelf along the top, just over the front windows, and under the roof, is essential, as it holds all small things that want to be near the glass. The table, or broad shelf in front, at the bottom of the front lights, should be as wide as two feet, for it is of great service for many plants that require constant care and attention; they are easily got at, they are near the light, may be turned round easily every day to prevent their growing one-sided; and this front should be wood trellis-shelving instead of solid, or instead of stone or slate; nevertheless, if it be solid, strips of lath should be laid along, an inch or so apart, so that the bottoms of the pots may not be on a flat place, so as to exclude the air from the drainage-hole. There should also be a good shelf on the back wall near the top for such of the plants as want most air and least warmth, especially for things that rest all the winter, and the main stage should be as near the glass as it is possible to construct it, due regard being had to the growth of the plants. There should not be

more shade than cannot be avoided; light is essential, air is essential, and, above all, room for the free play of this air is essential; though it is pretty generally the practice to put the plants in a greenhouse as close together as possible, there ought to be as much room between them as they occupy; and the nearer you can comply with this, the better they will grow. Cleanliness is also one of the great requisites for the health of plants; dead leaves, damp corners, dirty shelves, decaying flowers, and litters of any sort are injurious: whatever the damp can hang about, is likely to produce mildew; the drawing-room itself does not require cleaning more than the greenhouse, if we intend to do the best with the plants.

WATERING THE PLANTS.

The best water for plants is rain; not a quart should ever be wasted. A tub, or a tank, should be inside the house, and the entire rain from the roof should be conducted by a pipe to the inside; nothing is more simple and attainable, nothing more valuable than a contrivance for a supply of rain-water. Next to this it is desirable to have it the same temperature as the atmosphere of the house. One-half the plants that are unhealthy have been chilled by the watering, and, in many places, where they can only get spring water, they are very unsuccessful; some do not know why, but there is no difficulty about establishing the fact. Hard water is injurious, mineral waters are often so; river water is next to rain in value, if it be soft; but even that ought never to be used cooler than the air of the house. Pond water is next to river, if there be nothing noxious flowing into it, but all of these are poor apologies for the rain-water, conducted into the house. Some caution is required in one respect; when the wood-work has been fresh painted, the water will poison anything, so that it must be turned away until it neither tastes nor smells of the paint. In the mean time, some pains must be taken to get good water. With regard to the mode of administering water, only those within reach may be said to belong to ladies' work; but it is quite necessary they should set one who understands it to do the rest, for too

much or too little water is fatal. No plant should be watered while the soil is moist; but it is as essential, that when it is watered, all the soil in the pot should be moistened. There is another point that requires attention. If, while other plants are apparently dry, any one seems wet, it should be examined, to see if the drainage be free; because it will be obvious either that the plant cannot absorb so fast as the rest, or that the water has not the means of draining away; if it appear that the drainage is clogged, the ball must be relieved of the crocks or other matter put in at the bottom, and which will appear to have got the soil run among it, and fresh crocks must be put in. A plant suffers as soon from want of the supply of air, and a too great supply of water, as it does from a deficiency. The cistern, tub, or tank, being handy to draw or dip water from, a lady can use just such sized watering pot as is most convenient to handle, and go round the plants to give only such as are dry the requisite moisture, not just a sprinkle at top, but as much as will cause a surplus to run out at bottom. The earth should be examined to see if it be close to the side, if not, the watering has been too long neglected; for the first symptom of suffering, or danger of suffering, is the shrinking of the ball of earth, and if this be not noticed, the water then given proves useless, because it runs down the vacancy between the ball and the pot, and does not soak in at all.

MANAGEMENT OF AZALEAS AND CAMELLIAS.

The *Azalea indica*, and *Camellia japonica*, are as hardy as any of the greenhouse plants, and want as little labor as any, although they must have attention. When these plants are advancing their buds towards blooming, they want abundance of water, and to be placed in the part of the greenhouse least subject to draught, or wind. They will do on the general stage, and may be, for the sake of appearance, set about in different parts, but not too near the door. They should be turned frequently, so that one front should not be better than another, and they will keep in flower a long time in perfection. As the flower goes off they begin to make their new growth; they want turning daily just as

much in this period as any, for they are shaping themselves, and if left to themselves without being moved, they would assuredly grow one-sided. In the middle of June they may be taken out and placed in a sheltered spot, with plenty of room, distantly shaded from the extreme heat of the sun; and if there were a canvas house, such as tulips are grown under, nothing could be better, because they can have all or part of the air or sun according to their wants, while they can be entirely protected from those drying winds which injure every tender or half-hardy subject that is exposed to it; but, in the absence of this, we must be content with the most sheltered spot we can find in the garden. The ground should be such as the roots cannot penetrate, and the watering must be attended to diligently; nor ought a rainy period to prevent the same attention, for it will often be found that a bushy plant throws the rain entirely outside the pot, they therefore require examining in rainy weather as well as in fine. When they have made their growth complete, they ought to be placed in the coolest part of the garden, and the quantity of water lessened considerably; they will want only such moisture as will keep them alive, and as they do not absorb much while at rest, this will be very little.* In September you may restore them to their places in the house, first examining the balls of earth to see if their roots are matted round the sides of the pot; if so, change these pots for those of a size larger. When the plants have done their bloom and are making their growth, whatever is growing out of form should be cut off. If you want to propagate the Camellia, do it by inarching, and the Azalea by cuttings, in sand, under a bell-glass, and if you have it, in a slight hot-bed, with a little bottom heat. The Azalea and the Camellia grow best in loam (No. 2) two-thirds, peat (No. 1) one-third, and the pot should be one-fourth filled with crocks,

THE CINERARIA, VERBENA AND CALCEOLARIA.

These plants are idle and rest in the winter months, but flower a considerable time

* In our dry climate much more water will be required in summer than in England, and the pots must be well watered, daily, to prevent the soil about the roots from becoming parched.—ED. HORT.

when they begin. They require a good supply of water when they begin to grow, and should be placed near the light when their flower-stems rise; when they decline their bloom, they may be parted at their roots, or their side shoots taken off with or without roots; if without, they should be potted and covered with bell-glasses, but if with roots, they may be placed in a shady spot in the garden, on a hard bottom. Strictly speaking, all three of them may be called frame plants, but the distinction is not easily defined, and they do well in a greenhouse; they may be placed on the highest back shelf in September, and will seldom require watering; but, in a good stock of Verbenas and Cinerarias, the plants need not be parted nor propagated, and the pots may be enlarged by change. Many of the plants will flower in winter and early spring. It is only the small newly made plants that need be put up out of sight, for anything that gives a flower in the winter is acceptable. Some of the Verbenas will be dwarf, others require to be supported on a trellis, but the young ones may be turned out into the borders and beds in the spring to flower the whole summer. The Calceolarias will also require supports for their main flower-stems sometimes, though those are the best that support themselves. The soil in which these plants thrive is, half loam (No. 2,) a quarter cow-dung (No. 7,) and the other quarter peat (No. 1,) well mixed. The cuttings strike easily in pots filled all but an inch with the soil, and one inch of sand; the bottom of the cuttings should touch the soil and go through the sand, but not enter the compost, though they will send their roots into it when they strike. To grow any of these large, they must have constant shifts from small to larger pots. All dead leaves must be removed.

ERICA, EPACRIS, CHOROZEMA.

This family is perhaps the most difficult to manage, because so small a neglect is fatal. The soil in which it succeeds best is poor, at least, comparatively so, for it is easily destroyed if much excited; the compost that answers best is four-fifths or parts of (No. 1) peat, and one-fifth or part of loam (No. 2.) If it happens that the peat is not sandy, it may be necessary to put sand to

it, not exceeding one part. Good turfy peat is, however, generally sandy enough. This should be well mixed together, so that the roots shall find all the soil alike, and not more loamy in one part than other. This compost being comparatively poor, and very pervious to water, the greatest possible attention is required as to the watering; and this may be generally applied to soils of which the greater part or any considerable part is peat, for the water runs through it quickly, and when it is once neglected till dry, the plant suffers, if it does not die. Every time a heath wants water too long together, some of the lower leaves turn yellow and fall. This makes so many naked stems to heaths of any size, but a worse effect is caused by giving too much, or by the stoppage of the proper drainage of the pots. The more full a pot is of roots, the more constant must be the watching and necessary watering, because the water cannot be held so long by the small quantity of matted soil, as if there were but few roots. In some cases a heath may be wanting water twice a day. The cuttings of heaths should be taken from the last produced shoots, two inches, or one inch, in some cases, long; the lower half should be stripped of the leaves, and the upper half have all left on. Get a pot of heath soil filled, all but half an inch or an inch of sand, according to the cutting; water the sand so that it may be saturated with wet, and stick in these cuttings so that they just touch the soil, but not go into it; cover with a bell glass, water with a very fine rosed water-pot, so that the sand shall never be thoroughly dry; wipe the glass dry inside every morning; let them be in a cool part of the greenhouse, and be shaded from the sun; when they set off growing well, you may conclude they have struck root, and pot them in sixty-sized pots. They may be kept in a common garden frame all the summer, if you please, or in the most airy part of the greenhouse. Here they may be shifted as they fill the pots without roots, and require but ordinary attention.

GERANIUMS.

The soil, for the healthy growth of this family, may be of loam (No. 2) three parts, dung (No. 7,) or for want of it droppings

(No. 10,) or if neither can be had, dung (No. 5) one part; peat one part, well incorporated. Cuttings may be struck whenever they can be got, but the usual time for any quantity is July, when everybody cuts down the old plants. These require no care whatever. If they are put in the open border, and shaded, they will strike; but those who have choice kinds will cover them with a hand-glass, and place them all in the shade; when struck, pot them in sixty-sized pots, pinch out the top to induce side shoots, and leave them out of doors until September, simply changing their pots if they get too full of roots; when removed to the greenhouse, examine the roots, and, if necessary, remove them into larger pots, and place them among the other plants to take their chance. The large plants, when they have done flowering, may be cut down to such skeleton shape as shall give a chance of growing handsome; and let them remain out of doors, shifted into a size larger pot, or trimmed up about the roots to go into the same with fresh loam. In September remove them also to the house. If any of the shoots come so as to cross others, rub off those which are least wanted, to give strength to the others and keep the plant in form. If any shoots grow too vigorously for the rest of the plant, pinch off the end, and so regulate the growth in this particular, that it may be handsome. As the blossoms come out they will require shading, or they will not remain long in bloom. When in flower you do as you please with them until the flower declines, and then turn them out of doors, cutting them down again in July, putting them back into the house in September.

CEREUS, EPIPHYLLUM, CRASSULA.

These subjects take any soil better than that which has been popularly recommended. They do not require to be starved. A compost made of loam (No. 2) one half, peat, (No. 1) one quarter, and dung (No. 7 or 10) one quarter, will grow them well.—They want but little water all the winter, and as their buds begin to swell they may have a supply. After they have done flowering, turn them out of doors, place the pots under a south wall, or in the hottest part of the garden. In September, remove

them to the house again. The *Crassula* may be struck from cuttings as easily as the others, and if left on the ground without inserting at all, will throw down its roots sideways into the earth of itself. Small pieces, however, are generally selected, and after drying the juice, inserted in small pots, where they are treated from the first like plants, and shifted from time to time as they fill their pots. The *Crassula* carries its blooms on branches at the ends of the shoots; consequently, as soon as it begins to grow from a cutting, the ends are taken off to induce side shoots, and thus form a handsome bushy plant with many heads of flowers, in the one case (*coccinea*) scarlet, in the other (*falcata*) orange. The shifting is always best after the flowering is done. The *Cereus* and *Epiphyllum* require much such treatment at first. *E. truncatum* should be stopped until there are branches enough to hang down all around the pot, for the habit is weeping, and the flowers come on the ends of all the branches.

GENERAL RULES FOR THE MANAGEMENT OF GREENHOUSE PLANTS.

In mild weather, and during winter in particular, if there is any warm gentle rain, a greenhouse plant of any kind is greatly benefited by exposure to the air; not that it is possible to remove all the plants in a greenhouse out of doors whenever the sun shines in winter, or a warm shower comes, but it is as well to know this, because we all have our favorite plants, and we can always put out a few of these when the weather is favorable.

Never indiscriminately water the plants in a greenhouse, because where there is a mixed collection of various families, some will be found to absorb much more water than others, and it is quite as bad to give too much as too little water. Half the plants in dwelling houses are spoiled by excessive wet, and especially where the pots stand in saucers to prevent the wet from running over the place when they are watered. In greenhouses we have seen this where ladies are very fastidious about the cleanliness of their shelves; but laudable as cleanliness may be, it is running the greatest possible risk to let plants stand in water. Occasionally examine the pots and

turn out the balls of earth to see if the roots are matting round the side, for it is the best rule for removing a plant to a pot of a larger size. If the plant is growing, it requires it more than a plant at rest; for a plant at rest should never be excited until it begins to advance of itself; besides, when a plant is set for bloom, and about to take its rest, until the buds swell by a sudden excitement, such as being placed in fresh earth, or having too much heat or water, the bloombuds get blighted, and the germs of the leaves and branches take up the growth, the former being unable to take the fresh supply, because flowers can only take a certain quantity, and the others being unlimited in their means by naturally extending themselves so long as there is a competent supply. The time, therefore, to examine the roots, is when a plant begins to make its growth, or at the decline of the flowers. There need be no other rule for changing pots, but the filling of one with roots; generally, however, once in a season is enough for established plants, and that is after they have flowered, and before they make the next season's growth.

Constantly turn plants round to prevent their growing shabby on the side which is in the dark, or comparatively so; and also to prevent its making only one handsome front. All plants should be alike on every side; and although it may give some trouble, it amply repays us by the improved condition. Nothing looks worse than a plant with but one good face, and the others discoloured, or leafless or warped. Always give plenty of room to plants; the light and air should be able to reach them all round. The best rule is to let there be just the same room between the plants as the plants occupy; but greenhouse room is so valuable that this is rarely allowed. Nevertheless, it does not alter the fact, that the more room plants have, the better they grow; and nothing does more harm than to place them close enough to darken the backs of the rows.

If you want plants bushy and short, you must keep pinching off the ends of branches that grow upwards; but, as the perfection of a plant is to be full of branches and leaves to the very edge of the pot, this operation of pinching must begin early, even

when the cutting has just struck, or the seedling, if the plant be from seed, be only three or four joints high; but those plants which grow pyramidal in form must have the leaders preserved, and should only have such branches stopped as are inclined to come too long; such as shoot out faster than the rest.

Deciduous plants should not be watered after they drop their leaves; but when they begin to swell their buds, they may be supplied with a little moisture, to be increased in quantity as soon as they shoot out their branches.

Seeds of green-house plants are best sown as soon as they are ripe. Nature points out this for all seeds; but artificial culture, or a change of climate, suggests various changes in the plan of doing many things; for instance, a tender plant may be sown in the open borders in the spring; and as it will meet with no frost until autumn, it is quite proper to do so; but if the seeds were sown directly they were ripe, they would come up only to be killed by the frost. Not so with green-house plants; they are in a droper climate. If they come up they will grow without interruption; and if they are in the habit of lying in the ground till genial, or, we ought to say, till warm weather, where they grow naturally, they will do the same in a green-house, unless the temperature be prematurely raised. In all matters of doubt, we ought to make sure on the safe side. Foreign seeds, therefore, ought to be sown the instant we get them; because, next to sowing them at the time nature herself sows them, it is well to do so as soon after as possible.

All seedling plants are the better for pricking out, or transplanting, as soon as they have three or four leaves; and the most effective of all methods is to get small sized pots, say *sixties*, and plant the seedlings round the edge, close to the side of the pot, about three in a pot, or four, or even five, if they are small slow-growing things. They derive the greatest benefit from their roots reaching the sides of the pot.

As you may be at a loss for the soil in which a new plant grows, use a compost that everything will live and grow in, and leave to time and experience any improve-

ment you may make. Take loam (No. 9) which is presumed to have no dung or other exciting matter in it, droppings (No. 10.) or, for want of it, dung (No. 5,) peat (No. 1,) and leaf-mould (No. 4.) in equal quantities; and if it be too adhesive, take half a part of sand to make it more pervious to water, or at the most a whole part. Mix these well together. It will suit everything a little; and if the plant does not do all you wish, you can at least grow it well enough to get cuttings from, and try them in lighter, poorer, or richer composts; but as we know camellias, geraniums, heaths, and succulents will grow in it,—and these are very much opposed in their natures,—it is fair to presume that any plant will grow in it enough to answer the temporary purpose of saving it to grow others from. Keep all shelves free from wet and dirt; have grooves cut along the middle of them for the water to run along, instead of dripping off along the edges, and provide for the drip at the end, so that it does not make any mess, or dirt, or litter, at the part it runs down.

Provide, if possible, the means of shading the greenhouse in any hot or bright weather, as, in the spring, when the azaleas, hoveas, and many other fine plants are in bloom, a few hours' sunshine would shorten their duration some days. A canvass roller-blind outside is very easily contrived; or a thinner blind of calico, or some such material, inside, would have as good an effect, and be somewhat lighter. But shade from excessive heat of the sun will make several week's difference in the lasting of the blooms. It must, however, be recollected, that, as whatever excludes the light in any part of it is an evil,—and, therefore, shading a choice of evils,—the blind must not be down an hour more than necessary.

When the bloom of a plant is over, you have to make up your mind whether you intend it to seed or not. If not, pick off all the remains of flowers, that the pods may not swell; for the seeding of any plant stops, in a great measure, the growth. If it be past the middle of May, you may turn a plant out in a sheltered part of the garden, for want of better accommodation; but if you can give plenty of air in the green-house and shade from the extreme heat of the sun, plants may as well complete their

growth in the house as not; for it is not desirable to expose them too much, nor do the lovers of plants like to see the greenhouse empty.

As camellias and azaleas, cactuses, epiphyllums, and many other subjects are turned out to harden their growth and get the benefit of air in summer, the greenhouse may be supplied with annuals. Balsams, cockscombs, clintonia, salpiglossis, rhodanthe, and other tender annuals, may be sown in a hot-bed in March or April; and, although they require particular treatment for large specimens, may be planted out in pots and grown still in the hot-bed, until the time they are wanted to supply the shelves of the greenhouse.

In August, everything ought to be cleared out, and the roof of the greenhouse should be well syringed; all the dirt washed from the glass, the walls, posts, shelves, and every part. Cleanliness is everything with plants; and the house should be thoroughly clean before the plants are put in for the winter. Nor is it at all a bad precaution during the period that it is empty, and before the syringing, to fumigate it well with tobacco, and afterwards with sulphur. The one will kill everything upwards, the other anything downwards. The syringing should be done with such force as to drive everything out of the corners.

When the plants are taken into the greenhouse, let the surface of the earth be stirred, the pots cleared from anything that they may have attained in the way of dirt, snails or vermin, or anything that will cling to the outside or in the holes at the bottom.

Let the paths and floor of a greenhouse

be kept dry and clean: it ought to be a paved floor or a concrete, or some other impervious to wet; and provision should be made for the running off of all the water that may fall to the ground; for if the ground absorbs wet it too often engenders mildew.

Plants should never be trusted to the open air before the middle of May, nor remain out after the middle of September. All before or after this is running a considerable risk.

Grapes may be grown in a greenhouse, if the growth be confined to a branch for each rafter to fruit, and the shoot which is trained alongside of it for the next year's bearing. This does not materially exclude light, but any more would be injurious; and even this must not be attempted if the shelves are to be filled after the present crowded fashion, in which the plants touch each other and form a complete shade for the backs of the whole. The Sweetwater and Black Hamburg are the only sorts which should be tried.

Hot-water pipes are the best means of warming a greenhouse in winter-time, but better avoid lighting a fire as long as possible. Mats hung up in front are a great protection to the plants, and that is always the coolest part of the house; [shutters are still better;] but when the glass is down to thirty-five, there may always be expected a frost in the night, or at least it should be provided against. The man who looks after the fires should be on the alert, and the mats in front should always be hung up in doubtful weather, because it is little trouble, and does no harm to the plants.

THE WHITE BELLEFLEUR APPLE.

BY A. H. ERNST, CINCINNATI, OHIO.

DEAR SIR—Pomological investigation seems just now to be an absorbing subject with horticulturists. With a view to throw in my mite, and aid in removing some of the stumbling blocks. Permit me to give you the result of my inquiry concerning the

apple which has here been cultivated as the *Detroit*, and which is extensively known as the White Bellefleur. My attention was aroused to this fruit more than twenty years since. I traced its supposed introduction here to be from *Detroit*, and hence

its name. I found it afterwards, however, brought to our market from various other parts of the country, under as many various names. I sent specimens of it to the Massachusetts Hort. Society and the Pa. Society, and also to several eminent pomologists, yourself among the rest; no one of whom recognized it, except Mr. T. Hancock, of Burlington, New-Jersey. He suggested its identity with his *Jersey Greening*, (not the Jersey Greening of Coxe.) In the 2d vol., page 545 of the *Horticulturist*, Prof. Kirtland, in his *Pomological Notes*, asks the question,—“Is not this synonymous with *Woolman's Long* or *Ortley Pippin*?” He does not inform us whether the question is suggested by his own observation or that of some other person.

Having received grafts from Mr. Hancock some years before, of what he cultivates as the *Jersey Greening*, I was led to a careful comparison of the wood, growth and habit of the tree, when it surprised me to observe the striking resemblance. This I had also observed on former occasions with the *Ortley Pippin*; grafts of which I had received from the late R. Manning. I watched, therefore, with considerable anxiety the maturity of their first fruiting the past summer, to solve the mystery hanging over the nomenclature of this excellent fruit. The result is most satisfactory in removing every doubt, and proving our *Detroit* to be synonymous with the *Ortley Pippin* of *Lindley's Guide*, and *Manning's Book of Fruits*, which I presume is the *Woolman's Long* of *Thompson*, as described in your *Fruits and Fruit Trees of America*. The fact that it was sent from New-Jersey to England, and there pronounced as identical with *Woolman's Long*, would appear to fix it as an European variety, and to remove all doubt of its origin and introduction among us. Still, Mr. Floy, who first

sent the *Ortley* to England, declares that it is an American variety,* which originated in New-Jersey; and Mr. Thompson has not offered us any means of knowing that “*Woolman's Long*,” like “*Vicar of Winkfield*,” may not be a new English name, by which this fruit has been rechristened in bringing it into British gardens. More than all, as this apple is cultivated to an immense extent in the western states as the *Detroit*, or *White Bellefleur*, and as this latter name has become a standard one in this country, through Downing's *Fruits and Fruit Trees of America*, I feel justified in assuming the *White Bellefleur* to be the standard name.

I have, in describing this apple, confined myself strictly to its western character, which, I am aware, differs somewhat from your descriptions in point of colour, size and texture. To the first I am readily reconciled, from having observed, when on a visit to the north last summer, the singular and remarkable fact, that some fruits which, with us, are very rarely coloured at all, are there always very highly coloured. The second, I presume to be the natural consequence of our soil and climate.

The growth of the young tree is upright, long and slender; from the latter cause, often bending to one side, under the weight of the foliage. Wood smooth, and yellowish brown, with the ends of the long slender shoots inclined to mildew.

DESCRIPTION.

Size.—Large.

Form.—Generally conical, slightly flattened at the base; surface mostly even, but not uniformly so; much disposed to vary in form and evenness of surface.

Calyx.—Small, partly closed, and in a shallow basin.

* See late edition of *Floy's Lindley*, 1846.

Stem.—Long and slender, planted in a deep, narrow cavity.

Colour.—Light yellow, numerous covered with smutty blotches, which readily yield to the brush,—with occasionally a scarlet blush on the sunny side.

Skin.—Thin, smooth and oily to the touch.

Flesh.—Yellowish white, tender, and abounding in sprightly juice.

Flavor.—Slightly sub-acid, blended with rich, saccharine, fine flavored juice.

Core.—Remarkably large and open; seeds small, pointed, and light brown.

Maturity.—October to March.

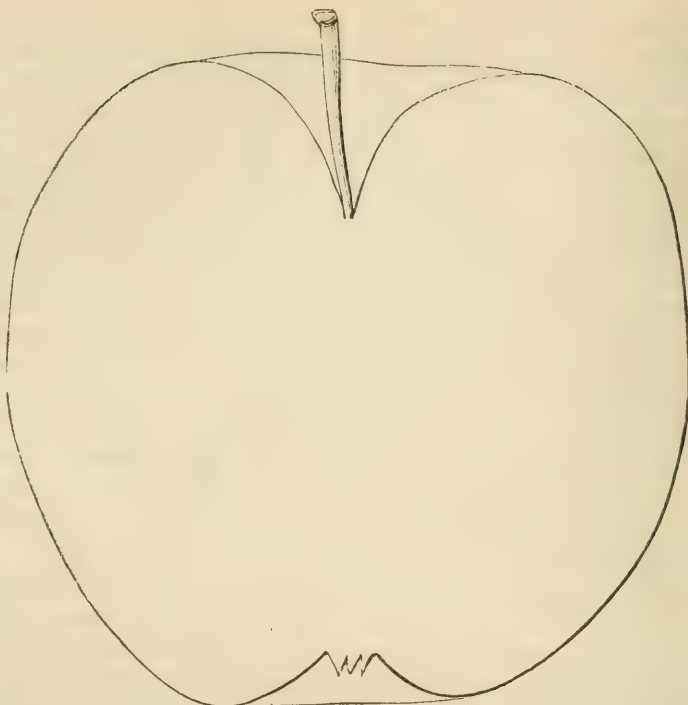


Fig. 70.—White Bellefleur Apple.

SYNONYMS.

White Bellflower,
Green Bellflower,
Ohio Favorite,
Detroit,
White Detroit,

Hollow Core Pippin,
Greasy Pippin,
Melting Pippin,
Crane's Pippin,
Warren Pippin,
Woolman's Long,
Ortley Pippin,

White Pippin,
Yellow Pippin,
Golden Pippin,
Woodward's Pippin,

} of the western states.

Ortley Apple,
Van Dyne,
Jersey Greening, of some.

} of English works.

Yours sincerely, A. H. ERNST.

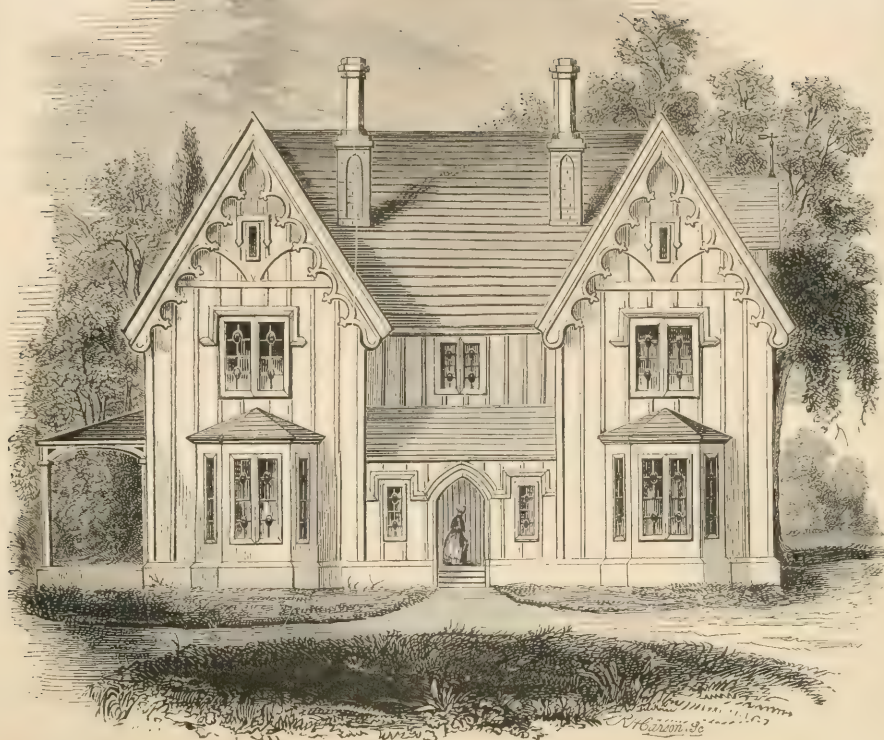
Cincinnati, O., December, 1848.

In common with all pomologists, we owe Mr. ERNST our thanks for clearing up the hitherto vague state of our information regarding this fruit. The date of his communication shows that it was written several months ago. Having at that time some doubts of the identity of the White Bellefleur, or Detroit, with the Woolman's Long, or Ortley, we asked permission to allow the communication to lie on our table till we could satisfy ourselves regarding it.

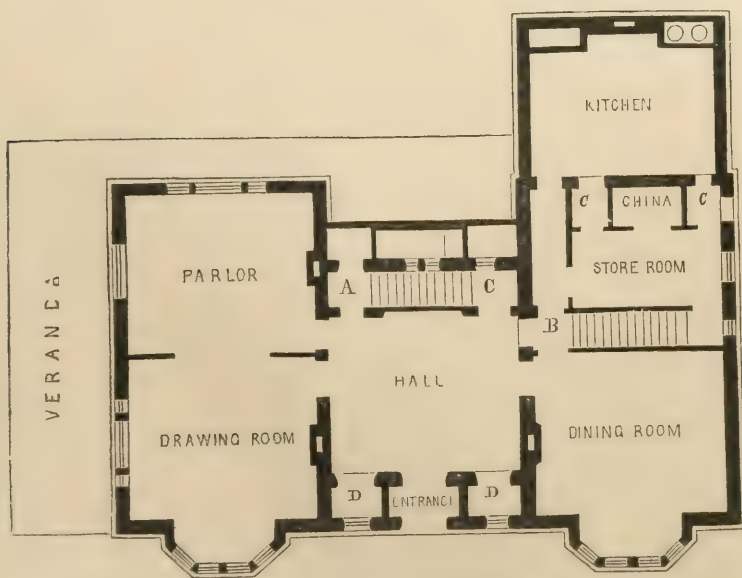
The Ortley, or Woolman's Long, (both of which have proved identical here, and also, we believe, with Mr. Manning,) were

better known to us than the White Bellefleur, or Detroit. But since we first received Mr. ERNST's communication, we have compared all these fruits together, and also the leaves, wood, and habits of growth of the trees, as received from various western sources, under the names White Bellefleur, Detroit, etc., and find them all one and the same variety.

Now, as under the name of Ortley, or Woolman's Long, this fruit is scarcely known in this country, except in the collection of a few amateurs, while as the White Bellefleur (or Bellflower,) thousands of the trees are grown in orchards all over the western and northwestern portions of



AN ENGLISH COTTAGE.



PRINCIPAL FLOOR.

[Hort: Aug. 1849.]

the Union, we entirely agree with Mr. ERNST in thinking, that White Bellefleur should be the standard name; and this for the sufficient reason, that it is easier for the few to adopt a popular and widely established name than for the many to relinquish it for one which is to them entirely new. It is on this ground that we adopted the title of Bartlett for the Williams' Bon Chretien pear, in our work on Fruits; and although many pomologists do not agree with us, and always write of it as William's Bon Chretien, yet from one end of the country to the other, this fruit is and will always be known as the Bartlett. Of course, this rule only applies to the nomenclature of fruits that are already very widely known by a popular name; for in all other cases, we would maintain as rigidly as pos-

sible the uniform and original standard name.

As we are not able to find Woolman's Long in any European work on fruit, except the Catalogue of the London Horticultural Society, we are still inclined to think this an American fruit, first sent to England by Mr. Floy.

Both as an orchard and table fruit, the White Bellefleur is more generally esteemed at the west than here,—bearing large crops of excellent fruit. Mr. ERNST informs us that fine specimens were exhibited to the Cincinnati Society this year, as late as June.

We have already pointed out, (see vol. iii., p. 391,) that the *Cumberland Spice* is quite a different fruit from the White Bellefleur. ED.

DESIGN AND DESCRIPTION OF AN ENGLISH COTTAGE.

BY GERVASE WHEELER, ARCHITECT, HARTFORD, CT.

[SEE FRONTISPIECE.]

In this country, and especially in some districts, wood must for many years be used as the material for building. It is this want which has, in fact, given birth to a style almost peculiar to this country; for nowhere in Europe will be found (excepting in a few solitary instances in the south of England, and in some parts of the neighborhood of Nice,) the class of house that abounds more especially in the New-England states. Thus, whilst this material seems in many instances to be imperatively demanded, it becomes the duty of the architect to meet the exigencies of the case, and, like a true artist, endeavor to extract beauty from what is given him;—beauty which shall be the result, as all architec-

tural beauty must be, of *fitness* and harmony.

Attempts to imitate effect, that can be only produced in stone or other material, in wood, whilst for a short time they may please the vulgar eye, cannot fail at no very distant period to be as unsparingly condemned as they deserve; and were there not some consolation in the thought, that the paltry imitations and ridiculous pretences that disfigure too many of our beautiful sites, cannot possibly last long enough in their frailty to outlive the attack that the increase of a purer taste and riper experience are preparing for them, some comment might seem necessary, upon the entire unfitness for the material and failure

necessary in the result, many recently erected wooden structures exhibit.

The material is itself a beautiful and a manageable one; and there are many examples in Europe, to show how durable and how pleasing may be the manner in which a true artist can use it.

There are time honored buildings in England, and in Flanders, that have stood and seem likely to stand for centuries; and, though from local causes, these are not examples that with benefit I would advocate introducing here, still they show what may be done in the right spirit with the material in any place, and are valuable as lessons to the architect, who may learn from them how the mighty men of old conquered *their* difficulties, and may gain encouragement how to overcome *his*.

It seems difficult to assign any particular style which, in this country, affords the best medium for the use of wood, because the character of the building must depend so much upon the scenery, the requirements of the builder, and upon local causes.

Where a high pitched roof is admissible, (and I believe there are very few situations where it is not,) the style that the accompanying plates exhibit will be found, I think, suitable.

This is essentially *real*. The character that it possesses is given it by its simplicity and fitness of construction; and no attempt is made with such board finery, to dress up and make "Gothic" what would otherwise be a very plain house.

The building is slightly modified from one that the writer has executed at Brunswick in Maine, at a cost not exceeding twenty-eight hundred dollars, whilst the size and arrangement of the rooms, the roomy hall, and the picturesque exterior point it out as the residence of a gentleman; and simple, and inexpensive as it is,

it contains really more of the requirements that a house should possess, than many that have cost twice the money.

The method of building is somewhat peculiar. It is *framed*, and on the front the construction shows, and gives additional richness and character to the composition. Across the frame are horizontal braces, at equal distances apart, and on these are nailed, on the *inside*, horizontal boarding, and on the outside diagonal boarding, whilst the sheathing of the exterior is composed of perpendicular plank, confined with *battens* two inches and a half thick, which are made with a broad shoulder, and nailed to the horizontal braces,—confining the planks, but leaving spaces for shrinking or swelling, and thus preventing the necessity of *a single nail being driven through the planks*, and thus rendering the *splitting* of the planks impossible.

The outside is painted with a mixture of paint and fine smooth sand, laid on with a wire brush; a method of painting the writer has had an opportunity of personally testing during a period of twelve years, and has found it to be the most durable and economical covering for out buildings that he has ever tried.

The windows, doors, and ornamental gables are simple and real. The windows being made of solid frames, four inches by five, and champered, and the doors framed and champered.

The inside finish is of the same *real* and simple character. In the hall the joists, carrying the floor above, are permitted to show; and as they are made in yellow pine, planed, and the edges champered and stopped,—the plastering between being coloured a rich blue, and the joists, cornice, and other wood work being oiled and varnished, a rich and substantial effect is obtained, and at a very moderate cost.

The exigencies of the proprietor required the two rooms left of the hall to be divided by sliding doors; otherwise, the writer wished to have had them as one large room. But the severity of the winters' cold required an arrangement, by which the space to be constantly warmed could be reduced.

The plan of this house affords a roomy entrance hall, so large as to serve for a room, an enclosed porch, produced by a simple arrangement, which gives ample recesses for hat stand and coat stand, on either side of the entrance door, a handsome staircase, enclosed, and opening into the hall, whilst an outer door leads on to a terrace, communicating with the garden.

The rooms are large and conveniently arranged, and the chambers over correspond in size. In the roof is a space so roomy and well ventilated, as to admit of being divided into servant's or occasional sleeping rooms, with great ease.

The chimneys are inside the house; and every precaution has been taken by the arrangement of doors, &c., to make the inside as warm as possible.

There are other styles that admit of the use of wood with great propriety and advantage.

A modification of the modern Italian is very suitable; and with the bold projections of Campanile and bracketted roofs, may, in this material, be made very effective, particularly as the battens may be used in a manner that will give great character and richness to the exterior.

In fact, so long as the true genius of the material is not contradicted, the characteristics of almost any style, excepting the purely classic, may be preserved; but it is from not discriminating between what the style requires and what the material permits, that the incongruous attempts and cheap imitations, so constantly seen, are caused.

Where everything is real, and the eye is not deceived, however simple and inexpensive the work may be, the composition cannot but please; but richness of ornament, at the expense of architectural truth, is a deformity, and must soon disgust.

GERVASE WHEELER,
Architect.

Hartford, Conn., April 2, 1849.

KNEVETT'S GIANT RASPBERRY.

THE great desideratum in raspberry culture, is to obtain a large fruited variety, of good quality, which shall be perfectly hardy in the middle and eastern states.

The Antwerps, the Fastloff, and even the Franconia, are very liable to have their canes or current year's shoots, upon which we depend for fruit the next season, destroyed by a winter of little more than usual severity; especially if the temperature varies, within 24 hours, from severe

frost to warm sunshine, while the ground is uncovered with snow.

To guard against this destruction of the canes, it is the practice of careful cultivators to bend them down in November, and cover them with a couple of inches of earth; this insures the entire safety of the bearing wood, and consequently a full crop. But as it involves some care and attention, it is very desirable to find some variety of fine quality, which does not require any such care.



Fig. 71.—*Knevett's Giant Raspberry.*

We are not able to pronounce fully that *Knevett's Giant* is such a variety, because we are not aware of its having been tested in various parts of the country. But we can state that it has proved far more hardy in our own garden than either the Red or White Antwerp, the Fastolff, or the Franconia.

All these varieties, where they were left uncovered, were cut down to the ground last winter, which was one of unusual severity. On the other hand, *Knevett's Giant* does not appear to have been in the least affected by the cold, and is now bearing a fine crop of excellent fruit, from a cluster of which our fig., 71, is taken.

We received this variety a few years ago from our friend, Col. WILDER, of Boston, who had it, we believe, from Knevett,

the originator, an extensive English cultivator, who is a market grower of small fruits.

We have already described it in our work on Fruits, and will only now add, that it is a stronger grower than either of the old sorts, that it appears to be very hardy and of easy culture. The fruit is of the largest size, and obtuse conical; that is, its form is rounder, and flatter, and not so pointed as that of the Red Antwerp, or the Franconia. It is equal to either of these in point of flavor. In texture, it is a *firm* fruit, like the Red Antwerp, and is therefore better adapted for market cultivation than the Fastolff. Altogether, we think it worthy of more extensive trial in the northern states, and more especially with reference to its hardiness.

HOW TO MAKE STRAWBERRY BEDS.

BY AN OLD DIGGER.

As I presume a large part of your readers prefer practice to theory, perhaps some of them, about to plant strawberry beds, may take an interest in the following hints, though they are neither novel nor original.

I have seen a great deal written about the sexual character of the strawberry, but not half enough about plain and straightforward ways of cultivating it.

Now I must be permitted to say that I have cultivated for years the Early Scarlet, Hudson, and Hovey's Seedling,—three unexceptionable sorts; the first peculiarly valuable for early maturity, the second for preserving, and the third for large size and good quality; and I have paid no attention whatever to staminate or pistillate plants. All I have cared for, was to *get the soil in the right state*, and let the blossoms and berries take care of themselves. I have had the satisfaction of gathering very large crops of first rate fruit, while some of my neighbors, who have studied the nature of the blossoms, and thought too little of the soil, have had very sorry crops. Not that I mean to say that there is not something in this matter of the difference in the blossoms; but that I have found it of little or no importance to intermix them in any given proportions in the same bed. All that I do, is to cultivate a bed of "staminates," like the Virginia, or the Early Scarlet, in the same part of my garden as my Hoveys and Hudsons, and let them take the whole matter of fertilization into their own hands.

Now it seems to me that the point most difficult to hit, is that of manuring the soil

well for the strawberry. If you use stable manure, in the ordinary way, you are certain to fill your soil with weeds, to such an extent that you give yourself a deal of needless trouble in keeping the weeds down; and if, as is not unlikely, you use it *fresh*, you will be likely to burn up your young plants, if the season is dry.

Two points must be understood, to grow the best strawberries: 1st, that the soil must be deep; and 2d, that it must be rich. If you look at the leaves of a strawberry, and, because they are not very large, presume that the roots will extend but little depth, you are greatly mistaken. I have seen the roots of strawberries extend five feet down in a rich deep soil; and those plants bore a crop of fruit five times as large, and twice as handsome and good, as the common product of a soil only one foot deep.

And this reminds me of a capital instance of *strawberry delusion*, which most of your readers doubtless know something about, but which many even yet do not, perhaps, fully understand. I mean the history of the "Washington Alpine Strawberry," which Mr. Stoddart, of western New-York, advertised and sold a great many dollars' worth of, some four or five years ago. Mr. Stoddart, I believe, was quite honest in the transaction; and yet the whole public were completely deluded by the "Washington Alpine," which was nothing but the old Alpine or monthly strawberry. The long and short of the matter was, that Mr. Stoddart had a corner of his garden which was *made ground*,—a rich deep moist soil, (I think it had been

an old bog, or bit of alluvial, afterwards filled up,) not less than 8 or 10 feet deep. Mr. Stoddart had raised some seedling Alpines, (which, so far as I know, always come the same from the seed;) he had by lucky chance planted them in this corner of his garden, where the soil was so unusually rich and deep. There they grew so finely, and bore such enormous crops, that his neighbors could scarcely credit their senses. The story of the miraculous crop got into the papers. People came to see with their own eyes. In short, they bought and carried away the "Washington Alpines," at extravagant prices, with the full conviction that "seeing is believing," and that such strawberries were never before grown, gazed on or tasted. Well, great was their surprise to find, on planting and cultivating the "Washington Alpines," that there was nothing new or wonderful about them; and that, in fact, they all dwindled down to the old fashioned Alpine strawberry. Mr. Stoddart, naturally enough, now has as many hard names bestowed on him for the fancied deception as he had before had hard dollars for really great crops. And yet, Mr. Stoddart sold his plants in good faith, and was probably as much deluded as the buyers. The whole secret of his unheard of crops, and the large size of his fruit, lay in the depth and richness of his soil; and as none of his customers had, like him, a rich ten feet mould to grow giants in, they had no "Washington Alpines."

The "moral" your readers are to draw out of this digression is, that they cannot well make their soil too deep for the strawberry. Perhaps they cannot afford to make it three feet deep, which is the right depth for an extra fine crop; but, at all events, they can make it two feet deep. And now a word as to manuring it.

It is all very well to talk about composts and "well rotted manure." The real truth is, that in our careless country, not one gardener in an hundred has such things *ready for use* at the moment he wants to prepare his strawberry patch. What people have at hand, from one end of the country to the other, is fresh stable or barn-yard manure; and the question is, how to use that to the best advantage.

The true way to do this, is to throw out the soil where your beds are to be made two feet deep. Fill up the bottom eight inches or a foot deep with fresh stable manure, mixed with the litter, treading it down firmly. Then cover this with two-thirds of the soil thrown out, rejecting the worst part of it. This will raise the bed four inches above the surface; and as it will settle about four inches, it will be about level after it is settled.

This is all the preparation which I give my soil, and it is all that any soil of fair quality needs; only that I would much prefer to have it three feet deep than two feet, and to have sixteen inches of stable manure and litter at the bottom than eight, though the latter brings heavy crops in a good soil.

You may put out your plants in August or April. The only difference is, that if planted in August, you may lose half of them by the heat and drouth, unless it is a rainy season; while in April, you are certain not to lose a single plant, unless it is unsound when you transplant it.

To my mind, there is no way of growing strawberries so complete as in beds three and a half feet wide, with three rows in each,—the plants in the rows kept clipped of their runners, and the ground between the rows nicely covered with straw all the year round. The largest and finest fruit is obtained in this way, and the beds them-

selves will last many years; while, if they are allowed to cover the bed, you can, at the most, expect only two crops, and generally the fruit is of little or no value after the first crop.

It is very idle and useless to attempt to make a new strawberry plantation on old strawberry ground. You may add double the usual quantity of manure, but the soil has been so robbed of other needful elements, that you will fail in growing a healthy crop.

A word or two may also not be thrown away, respecting the choice of plants. Of course, you will always put out young runners, and not old plants; but something more than this is needful. You must take

care to see that they are not runners from an old and worn out bed; for nothing is more certain than that, while runners from a fruitful bed will make fruitful plants, so also, runners from an old and exhausted bed will very often produce only barren plants. Nurserymen ought to attend to this; for any respectable and intelligent nurseryman should be ashamed of sending out plants from a bed which is not in a healthy and fruitful state, since his customers at a distance depend wholly upon his integrity in sending them sound and healthy plants; not such as inherit feeble constitutions from "a long line" of decrepid ancestors. Yours, &c.,

AN OLD DIGGER.

THE COMPARATIVE EARLINESS OF PEAS.

BY THOMAS MEEHAN, PHILADELPHIA.

SIR—I beg to offer you the result of an experiment, made to test the comparative earliness of several kinds of peas, and to make a few observations on them.

On the 3d of April, in the same soil and situation, and under equal circumstances, the following kinds were sowed. The time when each produced pods fit for use, is marked immediately opposite:

1. Prince Albert,	June 10
2. Bishop's Dwarf,	" 17
3. <i>Thompson's Dwarf</i> ,	" 17
4. Early May,	" 21
5. <i>Early June</i> ,	" 21
6. <i>Early Frame</i> ,	" 21
7. <i>Early Charlton</i> ,	" 21
8. Royal Dwarf Marrow,	June 25
9. White Marrow,	" 25
10. Black Eyed Marrow,	" 28
11. Blue Prussian,	" 30
12. Blue Imperial,	" 30

13. Banksian Marrow, July 2

14. New Mammoth, " 2

15. Dwarf Sugar, " 2

Nos. 5, 6 and 7, prove to be identical, in every respect, with the "Early May," [or Early Frame,] as also does "*Thompson's*" with Bishop's Dwarf.

It will be observed from this, that Prince Albert is seven days earlier than Bishop's Dwarf, and eleven days earlier than the Early May,—the generally received best early pea; and besides this, it is quite as productive. "Extra Early," and "Shilling's Early Grotto" bear good names for earliness and productiveness; but I have not had an opportunity of testing them myself. "Bishop's Dwarf Pea," besides being tolerably early, is an excellent pea for growing between drills of other things, or where it is desirable to have peas no higher than a foot to eighteen inches high; besides this,

they require no staking, and, considering their height, produce well. The White Marrow has a fine large pod, but is not so productive as other kinds, and too tall for general cultivation. "Blue Imperial" is preferred by many to the "Blue Prussian;" the pods being larger, and more "likely looking," in a marketable point of view. I prefer the Blue Prussian, as being more productive.

For succeeding crops, I should sow with Prince Albert, Early May, Blue Prussian, and Banksian Marrow or New Mammoth. Each one of these will come in for use immediately as each one before it is done.

Some peas are better adapted for standing the heat and drouth of our summers than others. I have noticed this particularly with the "Dwarf Sugar," which I consider a first rate pea for a late spring sowing. The pod has a very shrivelled appearance; but it produces well, and is not more than two feet high.

If you think such observations and experience of service to some of the readers of the "Horticulturist," I should have much pleasure in offering others, on other things, at some other opportunity.

THOS. MEEHAN,

Rosedale, Kingsessing, Philadelphia.

A SHORT EXPERIENCE IN RAISING STRAWBERRIES.

BY WM. S. FULLERTON, NEWBURGH, N. Y.

ONE of our neighbors—who is an enthusiastic amateur, though he is only able to devote to his garden now and then an hour, snatched from the duties of his profession,—succeeded this season in producing the most magnificent strawberries, both as regards size, abundant crop, and excellence of flavor, ever seen in this vicinity—though it abounds in good gardens. He did this, too, even allowing the plants to cover the whole bed—by which, though gaining in total product, he must necessarily have lost in the size of the berries. He has, at our request, written out his practice for our readers. We may add that his soil is a strong loam, and that he used at least four times as much manure as is usually employed in preparing strawberry beds.—ED.

DEAR SIR—I take great pleasure in answering your inquiries as to my method in cultivating strawberries.

In the spring of 1846 one of my neighbors presented me with a half dozen straw-

berry plants of the Hovey Seedling variety, and with these commenced my experience in that department of horticulture. I had a small piece of ground in my garden, twenty-four by twenty feet, which I designed for my bed, and I immediately set about preparing it, having in the meantime set my plants in a temporary spot for the purpose of increasing their number the first season, intending to *take a year to prepare my ground*. My manner of doing it was as follows: In the first place I gave the ground a most thorough *trenching two feet deep*, throwing the yellow loam entirely on the surface, and burying the soil, at the same time manuring *most bountifully* with good horse manure. I then let the ground lie in that condition exposed to the weather about six weeks, and then dug it over again to the same depth, mixing the whole mass *thoroughly* and again manuring it, using this time an excellent sort of *poudrette*, which I applied plentifully. The ground

remained in that condition until the month of July, when it was again *dug over* the usual depth, trenched, and planted with celery. It produced me a fine crop that fall—I having used freely of *wood ashes and salt* in its culture.

The following spring (1847) I transferred my six plants and their progeny to the bed thus prepared, setting two and three roots in a place and three feet apart each way. I had plants sufficient only for one-half of my ground. They immediately commenced growing, and by fall the ground was completely covered with fine healthy vines.

The balance of the bed I treated as follows: After taking off a crop of spring spinage, I again dug the ground over, and gave it another thorough manuring. In the month of August I obtained from Mr. Saul (of the Highland Nursery, of this place,) sufficient plants of the *Black Prince* and *Swainstone Seedling*, to finish my bed; setting the Swainstone next the Hovey's and finishing with the Black Prince. The drouth was very severe afterwards, and the plants made no runners. They all survived, however, and got sufficiently established to withstand the winter.

The following spring my strawberries soon *showed their keeping*. The plants last set out grew finely, and threw out runners which during the summer completely covered the whole ground. The other half of the bed soon became *a wonder*. I never saw such luxuriance in the growth of anything. The leaves and fruit stalks grew to an astonishing height, and I was really persuaded by some of my neighbors who were full of experience (I had none) that I had "overdone the matter," and had manured so heavily that I would get no fruit. I said but little about my experiment, often thinking, however, of the old adage of "bought wit," and the price I supposed I

had paid for it. But how agreeably was I surprised after "biding my time," that my bed instead of being all vines, as was predicted, matured an enormous crop of fruit, which for quality and *size* was the admiration of all who saw or tasted them. This part of the bed was about ten by twenty feet, and I gathered from it thirty-four quarts of strawberries. Many of the berries measured four and three-quarter and some five inches in circumference.

Last spring, 1849, my whole bed came in bearing, the plants far outstripping those of my neighbors, in the rapidity of their growth and the prodigious luxuriance of the foliage. The whole bed soon became one dense mass of blossoms and leaves, delighting the eye with their rich luxuriance, and promising a fine return for the care bestowed upon them. When the fruit ripened it was really no common spectacle. Standing by the side of the bed, only now and then a berry was visible, so rank was the foliage. My method of showing the uninitiated its hidden beauties, was by taking a smooth pole, sufficiently long to reach across the bed, with which I gently parted the vines, and pressed the foliage down on one side. An exclamation of wonder and admiration was the tribute always paid to its suddenly revealed treasures. The quantity of fruit thus exposed was truly incredible; I never before saw anything to compare with it. I made an attempt to keep an exact account of the amount which the bed yielded this year, but frequent absence from home prevented it. My record, however, shows nearly eighty quarts. They continued bearing for three weeks, during which time, as a reward for my labor, I had the satisfaction of gathering the finest flavored strawberries in the greatest abundance, not merely a few, but *quarts* of which were from three to five inches in circumference.

As to my manner of cultivation, (allowing the plants to cover the whole surface of the bed) it has its objections as well as its advantages. Hovey's Seedling will ripen perfectly and retain their flavor when thus massed. The Black Prince suffers somewhat in flavor, and in the rich dark coloring of its fruit, but it ripens well. The Swainstone was almost lost in the crowd. The Black Prince on the one side, and the Hovey Seedling on the other—both more vigorous growers—fairly overrun the more modest neighbors. The Swainstone, however, I think far the most delicious fruit for eating out of hand, and it would undoubtedly do better cultivated in hills, and out of the reach of other vines.

But then massing has some invaluable advantages. After the first crop in the spring, the weeds will give no trouble. The fruit stalks stand nearly upright, keeping the fruit from the earth, yielding it perfectly clean, without the labor of spreading straw or grass on the ground to keep it so.

I was often asked how the fruit could be

gathered without injury to the vines, for there would appear to be "no rest for the sole of the foot." This, however, was not the case. By carefully parting the vines with the hands, at the first picking, there was no difficulty in finding room for the feet, without doing the least injury, and I always after that follow in my first tracks. Parting the vines in picking the fruit, with the aid of my pole (already spoken of,) exposed the fruit to the sun and brought it to maturity.

Upon the whole, I feel richly rewarded for all my painstaking in thoroughly preparing the soil. Although there are very many within my acquaintance who complain that they fail in raising strawberries, yet the fault lies with themselves. A good crop here is always the result of good cultivation. Let them dig deeply and manure heavily, and so surely as the sun shines and the rain falls, they will be convinced of the immense advantage of such previous preparation, when they gather the superb crops which are the result. F.

Newburgh, July, 1849.

THE SUMMER TREATMENT OF GREEN-HOUSE PLANTS.

BY B. LEUCHARS, NEW-HAVEN, CT.

IN this country, the office of a gardener, if he properly performs the duties thereof, is no sinecure. Some days we have the sun of the tropics shining upon us with a burning brightness, parching and paralyzing every green herb, and some nights we have the cold chilly atmosphere of the poles, bringing along with it the aqueous vapours of these ice-bound regions, cooled down almost to the freezing point, and depositing them upon the weltered and seared forms of dying vegetation. There is, however, a comparatively trifling diminution of terrestrial heat in proportion to that lost by the

lower stratum of air; and thus, the plants upon the earth's surface, are placed much in the same position as a man would be, with his feet in an oven and his head in an ice-house. If, perchance, a dull and cloudy day should intervene, the organism of delicate plants become relaxed, the tissue of the leaves is softened, and thus they are rendered more susceptible of the scorching rays of the next day's sun. These peculiarities in the physical condition of this portion of the world, render the cultivation of many plants somewhat difficult, and it is easy enough to perceive that these circum-

stances afford a good many gardeners a very self-satisfying apology for downright indolence and neglect.

My object in writing this paper, is to say something on the summer culture of green-house plants—an expression which has as different meanings as a horse chestnut and a chestnut horse. The majority of gardeners explain it by turning all and every moveable plant, (wholesale and retail,) out of the green-house, and huddled together sans ceremony, under trees, hedges, back walls, and out-of-the-way corners; the affair is finished by putting an embargo upon the green-house door, the place is forthwith proscribed; like a sleigh, it is laid away until winter, when it is again stuffed full of its former occupants. Some people have associated such a *tropical* idea with the sight of a green-house, that they positively shrink from entering it on a warm day; and this idea is fostered by the custom of turning out every object that would induce them to enter it, and all under the absurd notion that nothing will thrive in it during the summer months. If gardeners would study for a moment the effects of this method, they would soon see the propriety of abandoning it for a better. Nothing can be more injurious to themselves or to their profession. If we would create in the minds of our employers a lively interest for the subjects of our labor, we ought to render those subjects as interesting as possible. We must give a visible polish to the productions of our art. The flower garden may be parched with drouth, but the green-house ought always to be in a blaze of beauty. Show them, that after all, it is really comfortable and pleasant to walk into the green-house or conservatory, and view the floral beauties of different climes, and breathe at the same time a cool and agreeable atmosphere.

But can this be done? Certainly. Noth-

ing is more easy. To effect it successfully, however, the gardener must not only have a "weather eye," but also a philosophical one, so as to discern the time, and the seasons, the transitions of nature, the nature of the plants, and the atmosphere we place them in, as well as the quality of the soil and of the water with which we supply them. In short, we must do things in the proper manner and at the proper time, in close imitation of the teachings of nature. We ought to have that confidence in our operations which is learned only by close practice and strict observation, and without which plant-growing is both a profitless and a pleasureless business, unsatisfactory to our employers and discreditable to ourselves.

I have lately visited a considerable number of places where gardeners are kept, and almost without one single exception, their green-houses were empty; perhaps a few old and immoveable and unsightly subjects were standing here and there, covered with dead and dying foliage; making the wretched appearance of the house still more wretched, and its confusion worse confounded. What would an English gentleman think of the gardener who kept his plant structures after such a fashion? It would not be tolerated a single day. Nor is there any reason why it should be tolerated here, while plenty of good gardeners may be had by sending for them. It is a well known fact, that with some honorable exceptions, this country is supplied with the scum and refuse of foreign gardeners, the very sweepings of the craft. Impositions and deceptions, quacks, pretenders and shams; men who hardly know a cabbage from a cucumber, or a bean from a beech tree. Yet they are employed as "gardeners," and many of them regarded as the standard of gardening ability.

It is impossible the time should be far

distant, when really talented and skilful gardeners will be more appreciated by the employers in this country than they are at present. And that the gold getting mania which at present prevails, will give place to inquiries and enjoyments more refining and intellectual in their nature, and much more calculated to give dignity and nobility to this great *people*, than that utilitarian spirit which finds its greatest happiness in the sordid accumulation of dollars and cents. The United States have their Horticultural Societies and Pomological Conventions. Some of them on a grand scale. Yes! grander than any other society in the world, and nobly supported too. But where is its Botanical, its Horticultural, or its Experimental Garden? It has none. Were I to write to the gardeners of London, or of Edinburgh, that this great people had no national garden, they would not believe me. Yet it is a stubborn fact. Some console themselves with the reflection that the time is not yet come to make such a movement, but many others are keenly alive to the desirability of such a grand object. Thousands and tens of thousands of dollars are annually expended upon playhouses and places of public amusement, immeasurably less elevating, instructing, or refining in their tendency than a national or metropolitan garden. Let us hope the leading men of this broad country will ere long take this great national want into their consideration, and give the people a Botanical and a Horticultural Garden, with splendid structures wherein the natural productions of other climes may be accumulated,—a garden worthy of this rich and lovely land—and worthy of the enterprising people who possess it.

The whole mystery in the management of green-house plants in summer is in giving them shade and moisture. The shade

ought to be elevated above the glass at least 20 inches or 2 feet. This is of great importance, as it admits a free circulation of cool air between the blind and the glass. The atmosphere should be kept cool and moist by evaporation, and this is easily done by syringing water on the floor, on the shelves, on the flues or pipes, among the pots, and on every available surface. By these means I have reduced the temperature of the house 15 degrees in a few minutes, and rendering the atmosphere agreeably temperate during the hottest days we have had lately, than which, none could be more trying, yet the plants are luxuriating in perfect health and blooming abundantly.

An evil, and a great one, consists in bad soil, and bad drainage. I have been told there is no use for drainage, for the plants require so much water here, and for the same reason fine soil was rammed about their roots, as firm as that about a gate post. Could we have a better argument in favor of free drainage and rough soil. You can water frequently; the water percolates quickly through the soil, the air follows it and keeps the moisture suspended in the mass. The most of summer flowering plants delight in such treatment. It is most essential in matters of artificial culture to take examples from nature. In what conditions do we find the most luxuriant tropical vegetation? In places moist and shaded, where the plants spring up annually among the decayed herbage of the previous season, where the decomposing mass is free and porous, allowing the accumulated moisture to pass off in the season of growth. How is it possible for the air to circulate, if the pores of the soil are blocked up with water, or where the ball is as hard as a lump of clay. Besides, the water itself will not circulate through a ball of earth, without a

free circulation of air. Therefore I would advise every one who has the management of plants to give these matters the consideration which they deserve.

Another point requiring special attention is cleanliness. All decaying leaves and flowers should be picked off as they appear. If the falling petals of decaying flowers are allowed to lay on the leaves of other plants they soon communicate decomposition to the parts, and the leaf quickly decays, however healthy it may be. The moment insects or vermin of any kind appear, they should be cleared out directly or have notice to quit. If the green fly makes its appearance on any plant, fumigate slightly with tobacco; let this be done on the principle of "little and often." It will generally be found necessary about twice a week. Syringe the plants clear of the bodies of the aphids the following morning with clear water. There is no reasonable excuse for having the plants in a house infested with insects, when these pests themselves are so easily destroyed.

The last point to which I will at present refer, is the folly of throwing the house open in every available part, thereby exposing the plants to dry and parching winds. Nothing is more hurtful to plants in bloom, than subjecting them to currents of dry air,

especially heated as it is during the hot hours of noon. The flowers fade in a few hours; the vital action of the leaves is paralyzed, and moreover, the moisture that rises in the atmosphere by evaporation is carried off almost as soon as it is generated. The better way is to keep the house pretty close during the day and exposing them at night, by this kind of treatment the plants will grow vigorously and flower abundantly.

I shall take an early opportunity of specifying some plants most suitable for the summer adornment of green-houses and conservatories, and my system of managing them. Meantime I would advise gardeners to bestir themselves, or they will be left behind, for gardening is making rapid progress in this country. Above all, do not neglect plants at this season, perfection in culture as in everything else, is made up of trifles; even if one part of a system be properly carried out in practice, if others are omitted, the effect will seldom prove satisfactory. There must be strict attention and persevering energy, carried on systematically throughout, in order to reach even mediocrity in the cultivation of plants.

R. B. LEUCHARS,

Gardener to Professor Silliman, jr.

New-Haven, Conn., July, 1849.

FOREIGN NOTICES.

ENGLISH SHOWS.—The agricultural show at Southampton was a remarkable occasion. I met a number of Americans on the ground, and was told that there were several others looking for me; but it was exceedingly difficult to find one, unless by mere accident. There were a great many farmers' wives and daughters, as well as a great many of the noblesse, in the yards, inspecting the implements and cattle, with catalogues in their hands, and showing the remarkable points of the animals, with as much skill and sagacity as if

they had been experienced breeders of live stock; some of them are, and also competitors for the premiums. One of the largest exhibitors of farming implements, was a woman who had succeeded to her deceased husband's concerns, and manages a large establishment with much success.

The English women and ladies, to their praise be it spoken, while they are as far from anything indelicate as any persons I have seen, have no sickly appreciation of modesty, and do not die at once at the sight either of a cow or a bull. The

show occupied four days. On Tuesday, was the trial of implements; on Wednesday, was the exhibition of implements and machinery; on Thursday, the exhibition of cattle and implements; and on Friday, the public sale. Half a crown was required for admission to the yards, from Wednesday to Thursday noon, and after that a shilling; and the sum received for admission, during those days, was £3,000, or \$15,000.

I am sorry to tell S—— that there were no dogs shown for exhibition or premium, though many of the English are as proud of their dog as of their children. They are not considered as agricultural stock, though they are sometimes used in carts for draught. Two things I have wished very much to do since I have been in England; one was to be able to send S—— a little pony and pony carriage, of which I have seen some of the prettiest establishments that can be imagined, fitted to carry two people; and, indeed, a great many of the nobility have them in their places in the country, and are often seen driving them in Hyde Park; another, is to send E—— an Alderney cow, looking like a Gazelle, giving the richest cream, and making eight or ten pounds of the most delicious butter a week, and just fit to make a pet of round the house. I should like to add to this a donkey for N—— & G——; for at Hyde Park corner, and at all the principal places of rural resort in the neighborhood of London, you find half a dozen, and sometimes twenty or thirty of these animals, standing with side-saddles and chairs on their backs, for ladies and children to ride upon,—a mile for three pence, and with perfect safety. Their knitting-needle gait is always amusing, and sometimes swift. * * * *

The incomes of many noblemen and gentlemen here are indeed enormous. Earl —— is stated to have an annual income of upwards of £100,000 sterling. The Duke of —— has actually spent more than £40,000 in draining and irrigating his property; so you may infer from that, what possibly may be his possessions. That expenditure is not even felt by him. And Earl —— is estimated at least at £150,000 sterling per year. The accumulation of property here is in some cases amazing, and entirely beyond my arithmetic. Now let me state some other facts. Earl —— has at least 80 house servants. The Duke of —— has 80 horses in his stables—say nothing of his farm horses, 40 of which are hunters, besides a very large number of race horses at other stables. Lord Yarborough has an indefinite number of hunters, &c.; and what amused me very much, was a pack of fox-hounds of forty couples. Lord Worsley, his son, kindly wished me to stay till Saturday, to go out on a fox-chase. Good heavens, only think of that. What was to become of my wife's old husband,—mounted on a fleet hunter, leaping hedge and ditch, with a pack of yelping hounds at his heels,—the huntsman's horn making the woods ring again, after a poor trembling fox, and bringing home the tail in his hat in

triumph; that is, if his neck were not broken at the first leap. The very idea electrified me, and my blood still boils at the thought. It was the custom at this place for his lordship (and his guests were always invited to accompany him,) to visit the stables where the hunting and riding horses were kept, at nine in the evening, precisely. They were reached by a covered passage-way from the house. The stables presented all the neatness of a house parlor; and the grooms, more than a dozen in number, were all drawn up in line, to receive the company. His lordship examined every stall, and looked at every horse. This regulation was certainly conducive to the faithful management of this department of the household; and it had another indirect advantage of taking the gentlemen away from the table, where, at that hour, they had sat long enough.

The Duke of Portland has drained, and by turning the course of a river, now irrigates at his pleasure between three and four hundred acres of land, covered, by this means, with the richest vegetation, and yielding three crops per year. Lord Yarborough has more than 60,000 acres of land in his plantation. He has one hundred and fifty tenant farmers; he has six hundred tenants in all; and you can ride upon his land in a direct line thirty miles,—so his steward told me. What an immense property! He and his father have planted more than thirteen millions of trees of various descriptions. One of his tenants told me, that in one year he (the tenant,) grew eighteen thousand bushels of wheat; and I saw a great many stacks of grain, which were estimated to contain one hundred quarters of grain,—that is, 800 bushels. *Colman's European Life and Manners.* . . .

THE SWAN.—The swan is, beyond all question, the bird to place, as a finishing stroke of art, on the smooth lake which expands before our mansions. It is perfectly needless, however delightful, to quote Milton and others, lauding the arched neck, the white wings, the oary feet, and so on. Its superb beauty is undeniable and acknowledged; and, to borrow an apt metaphor, we do not wish in these essays to thresh straw that has been thrice threshed before, to repeat how lovely the swan is on the silver lake, floating "double swan and shadow;" for we might thus run scissors in hand, through the whole *corpus poetarum*. Our object, in short, is simply to point out the best mode of managing them and keeping them.

Any one who lives on the banks of a moderately sized stream, and has a swan-right on that stream, will probably also have the means of keeping a keeper who will save him every trouble. But there are a great many people, occupiers of large farm houses, villas, or country mansions, persons perhaps of considerable wealth, who have no manorial rights, no ancient swan-mark belonging to their estate, but who still would willingly pay for the maintenance of a pair of swans and their annu-

al brood of cygnets on enclosed or artificial waters, if they knew but how to order them aright.

Imprimis, then they are called "tame swans, domestic swans;" never were epithets more inappropriate, unless we agree to say "tame hyena, tame wolf, tame rat, domestic pheasant, domestic swallow." They will come to their keeper's call and take food from his hand, they will keep at home, when they are completely prevented from ranging out of bounds abroad; so far they are tamed and domesticated, but no further, and never will be. To compare the relations which exist between them and man, with those by which we retain the goose and common fowl, is about as correct as to believe that the same temper and disposition influence the faithful dog and the wildest jackal of the wilderness. I put the case thus strongly, in order that it may be understood clearly. The comparisons may be a little exaggerated, but they will serve to raise the real truth into higher relief. Many systematic naturalists of deserved reputation have not been aware of the fact. Professor Low, speaking of the effects of domestication on birds, says "The swan, the noblest of all water fowls, becomes chained, as it were, to our lakes and ponds, by the mere change of his natural form." *Domesticated Animals of the British Islands; Introduction*, p. liv. Chained, indeed! I should like the learned philosopher to see a pair of un mutilated swans cleaving the air with extended pinions. He evidently takes the swan to be a domesticated bird, and that it will not fly away, instead of that it cannot. Waterton, who speaks only so far as he has seen, in his vivid essays, gives a very different account of the proceedings of a swan whom he indulged in the free use of his wings, for the gratification of observing his graceful evolutions in the air. But at present the discovery, and introduction, and dispersion of a species of swan that would be really tame, and stay at home without being tied by the wing, as prolific and having as valuable plumage and flesh as the common sort, would be one of the most valuable boons which the great London societies could now offer to the proprietors of limited portions of fluvial and lacustrine waters.

Is there nothing resembling this amongst the human race? The mention of the word "gipsy" will set thought-capable persons a thinking. "Oh! but they have been neglected, uneducated, ill-cared for! Educate! Educate!" say well-intentioned persons, who seem to declare that the soul of man is a *carte blanche*, and who would thereby, unthinkingly, deny the doctrine of Original Sin, as asserted by the Church of England. But I have seen enough both of bird and mankind to know that the heart of neither is a *carte blanche*; you cannot write on either, whatever it may be your pleasure there to inscribe. Your duty, in both cases, is to take them as you find them, and make the best you can of them for their interest, which will be found eventually to coincide with your own.

Swans, then, are *feræ nature* to all intents and

purposes; of that there is no doubt whatever the law of the matter may be; but although capricious birds, wild in their very nature, like most living creatures they have some attachment to place. The first point therefore is to settle them agreeably in their destined home. Old birds are less likely to be contented with a new abode, unless very distant from their former one, and are seldom to be obtained in the market. Cygnets may be procured every autumn; if they have been put up to fat for some time, so much the better, as they will the sooner become tame, and contented with a small range—which I am supposing to be the thing required. The disadvantage of having cygnets to begin swan-keeping with is, that they are less ornamental till they have attained their perfect plumage, and the proper orange color of the bill, and that they do not breed till their third year. It is not, however, generally known that the male is capable of increasing his kind a year earlier than the female, so that a brood may be obtained from an old hen, and a cock-bird in his second year. In selecting a pair, the great thing is to make sure of having two birds of opposite sexes. Two cock-birds will not live together, and their mutual aversion would soon show that all was not right; but two hens will, which is the case also with pigeons. A friend of mine procured a couple of swans; they were affectionate and happy in each other's society; in due time they made their nest and laid. Great were the expectations; such a plenty of eggs! both swans assiduous in sitting—rather suspicious that—the produce addle-eggs. The two ladies could not raise up a family between them.

In selecting any water-birds whose plumage is alike in both sexes, and which therefore cannot be distinguished with certainty, the best rule is to see them in the water, and take that which swims deepest for the female, and that which floats with greatest buoyancy for the male, remembering that all creatures of the masculine gender have the largest lungs in proportion to their size. The neck of the cock-bird is usually thicker. An experienced eye, will, besides, detect a certain feminine gentleness and modesty in the one, and an alacrity and boldness in the other, which is a tolerably safe guide, as well as an appropriate and becoming attribute to the creatures themselves.

Supposing the reader to have obtained two cygnets that are not mere friends, but actually husband and wife, he will recollect that those reserved for fattening are never pinioned, lest it should check their progress, and he will request the operation to be performed before he has them home, in order that they may have the fewest possible disagreeable reminiscences connected with the spot where they are to spend their lives. There are two ways of pinioning birds; at the elbow joint and at the wrist. The amputation of the part of the wing which corresponds to our hand, is quite sufficient to prevent the flight of the short-winged species, as far as migration is concerned, disfigures them

less than the closer pruning, and still leaves them the means of escape from a dog or a poacher, allows them now and then in their gambols to fancy they are free, and to enjoy a sort of half-run, half-fly from the lawn into the water. Kindness, comfort, and good feeding must be employed to keep them at home as far as possible; but the loss of the last joint only of the wing will not be enough to prevent swans from joining any travelling companions who are on their way to the Arctic circle. I should recommend the female to be pinioned at the wrist, and the male at the elbow, trusting to their mutual attachment to keep the less maimed bird from deserting her mate. But however it be done, let it be set about in a workmanlike manner; no chopping nor hacking, nor hewing nor butchering. Many cygnets are annually killed by the clumsy way in which their wing is lopped off. They suffer from the shock to their nervous system, as much as from the hæmorrhage.

A skillful operator will feel for the joint, divide the skin, and turn the bone neatly out of the socket. I will allow him to shed just one drop of blood—no more. I would be as hard upon him as Portia was upon the flesh-cutting Jew.

"This bond doth give thee here no jot of blood;
The words expressly are, a limb of swan;
Take then thy bond, take thou thy limb of swan;
But in the cutting it, if thou dost shed
One drop of cygnaïne blood, thy clumminess
Shall brand the name of 'Bungler' on thy back.
Therefore, prepare thee to cut off the limb.
Shed thou no blood; nor cut thou less, nor more
But just the very limb; if thou tak'st more
Or less, than just the limb, thou shalt bewail
The consequence."

If any brook runs into and from the pond where they are to remain, their escape through that channel must be prevented by sheep-netting, hurdles, pales, or other fencing, which should be continued some distance inland, lest they should walk away, if they cannot swim away. This precaution will be found particularly necessary if there is any main stream in the immediate neighborhood. A feeding trough may be fixed for them in the pond, in the part where it is most desirable that they should be accustomed to display themselves. Those who are fastidious about the sight of such an object, or who wish to have it thought the swans keep so much in view from purely disinterested motives (from simple affection to their masters, not to their greedy love of corn) may contrive to have it hid beneath a bank or behind a tree or shrub. The trough must be fixed in the pond on two firm posts, within arm's length of the shore, raised high enough from the water to prevent ducks from stealing the food contained therein, having a cover which lifts up by hinges, and so forms a lid, to keep out rats and sparrows, and open only in front. Many persons, however, feed their swans by simply throwing the corn into shallow water. They will skim the surface for the light grains which float, and then submerge their heads in search of that which has sunk.—Should any carp, (that fresh water fox,) be occu-

pants of the same lake, it will be found that they soon learn the accustomed hours of feeding, and will come to take their share along with their feathered friends. But it is cruel to locate a pair of swans for the sake of their beauty, in a new made piece of water whose banks and bottom are as barren and bare as the inside of a hand-basin. A load or two of water-weeds should have been thrown in, the previous spring, to propagate themselves and afford pasturage. Sometimes after an old established sheet has been cleansed at a great expense, it is thought that swans would now look well there, and they are forthwith turned in to be starved; whereas they would thankfully have undertaken the cleansing task for nothing. Swan food exists in proportion to the shallowness and foulness, not to the extent and clearness of the water. A yard of margin is worth a mile of deep stream; one muddy Norfolk broad, with its oozy banks, labyrinthine creeks, and its forest of rushes, reeds and sedges, is better in this respect than all "the blue rushing of the arrowy Rhone," or the whole azure expanse of the brilliant Lake of Geneva.

In confined waters swans require a liberal supply of food in the Autumn, when the weeds run short. It should be remembered that at this season they have to supply themselves with a new suit of clothes, as well as to maintain their daily strength. If they had not been taught to eat corn, and have not acquired a notion of grazing, they will perish from starvation as undoubtedly as a canary bird neglected in its cage. Young birds are apt to be fanciful or stupid, and have not sense enough to come on the bank and eat grass, or pick up the threshed corn which may be thrown down to them. Sometimes they may be tempted with a lock of unthreshed Barley or Oats, thrown, straw and all, into the water, which they will instinctively lay hold of and devour. Cygnets which have been previously put up to fatten, will give little or no trouble in this respect, besides the advantage of being accustomed to the near approach of a keeper.

In one week I lost two swans, a cygnet and a year old bird, from the consequences, I fear, of a few days' short diet at moulting time. Suspecting foul play from some ill-natured person I caused a post mortem examination to be made of that which died last; but in a literal sense nothing could be found. The poor thing was empty and emaciated though it had been fed with corn two or three days before, and though it had only to ascend a bank a foot high to enjoy a plentiful feast of good grass. It had been seen sailing about in apparent health and spirits the previous evening, and my mind is not yet quite satisfied about the subject. The following remarks may perhaps afford some clue in similar cases.

"Swans wandering by night, in search of watercresses chiefly, are always in danger from the different vermin which prey upon poultry and

game—weasels, stoats, polecats, &c. And swans thus destroyed exhibit no wounds or marks upon the body, but upon the head and neck, where, on a minute inspection, the wounds are discovered through which the vermin have sucked the life-blood, leaving the bulk so little affected that the feathers are unruffled. The wounds appear scarcely the size of a pin's head, but are generally above half an inch deep. Geese and turkeys are also liable to be destroyed by these nocturnal marauders, which, like all beasts of prey, sleep through out the day."—*Moubray on Poultry, 8th Edition, p. 128.*

One would doubt the fact of so large a bird as the swan falling a victim to a wretched little weasel. But a relation of mine had a pair of Canada geese, birds little inferior in size to the swan, which in the breeding time were suffered to shift their quarters from the farm-yard, their usual abode, to a neighboring broad, where he had rights. After a time one bird returned home alone and its missing mate was at length discovered, half-decomposed, on a sedge islet in the broad, in such a position as to indicate that it had been surprised and killed by one of the larger weasels, a stoat, or a polecat.

Considerable difference of opinion has been entertained respecting the diet of the swan; some supposing it to be exclusively vegetable, others believing that fish enter largely into it. My own observations tend to prove that a very considerable part of their nutriment is obtained from minute insects and molluscs. The sluggish, weedy waters, where swans thrive best, abound with such creatures; and the whale is a sufficient example that the size of the prey is no index to the magnitude of the creatures that subsist on it. Swans fall off in condition very rapidly in autumn, however liberally they are supplied with corn, immediately that the temperature drops to any extent, and the minor inhabitants of the pools disappear into their winter retreats. A very small fish now and then might not come amiss to them, and spawn would be greedily devoured. A swan must be considerably more destructive in this respect than the poor little water ouzel, which is so bitterly persecuted along the salmon streams of Scotland, for the alleged injury it does to the ova of the fish. The seeds of grasses, and the soft, starchy parts of aquatic plants, are no doubt a considerable portion of the daily ration of the swan. It seems to prefer sloppy, half-decayed vegetation, to that which is fresh and crisp. Spare garden-stuff, spinach, and such like, thrown out for them is liked the better for having lain soaking at least 24 hours, that is, in such time as it has become sodden and attacked by small fresh-water shell fish. If their mode of feeding is watched, it will be found to countenance the popular belief that many birds live "by suction;" they appear to suck down the pappy food, which pleases them best rather than fairly to crop and swallow it. The swan, consuming the submerged refuse of plants, is thus the

scavenger of the waters, as the hyæna and the vulture are of the land. In such countries as Holland, and still more about the deltas of large rivers in the south of Europe and western Asia, their influence must be very beneficial. Indeed we are compelled to believe that they have been bountifully created to fulfil this office of cleansing the half-stagnant water-courses. Unlike the old dragons that could exhale a pestilence and infect a whole district with their breath, these winged tenants of the marsh swallow many a plague and fever up. Not a little miasma has travelled harmlessly down the throats of swans. They can fatten on poisons, although ignorant of King Mithridates, his antidote.

A curious instance of the animal diet of the swan once occurred to myself. The common brown shrimp, it is well known, inhabits and thrives in waters less strongly impregnated with salt than the open sea, which is not the case with several other species; and I was desirous of trying whether it were possible to stock with them a piece of water absolutely fresh. A quantity were procured and brought home in a fish-kettle of tidal river water; but the heat of the weather at the time was much against the success of the experiment. On arriving at their journey's end the great majority were dead. They were all, however, turned out together: a few swam off apparently unaffected by the unwonted element, and were never seen or heard of afterwards; the rest sank to the bottom; when one of my swans, expecting her feed of corn, sailed up and began feasting on the dead shrimps, crushing them in her bill before she swallowed them, and appearing much to relish her meal.

The difficulty there sometimes is in getting swans to eat corn, or to graze like geese, shows that either diet is with them an acquired taste.

At the proper age and season they will show a disposition to breed, if well fed, although restricted within comparatively narrow limits. As soon as they have decidedly fixed upon the spot for their nest, it will be an assistance to take them two or three barrowfuls of coarse litter. Sedges and rushes are the best, with perhaps a few sticks, which they can arrange at their own pleasure. The number of eggs laid will vary from five or six to ten, but the number of cygnets hatched seems, like the fall of lambs, to depend much upon the season and the weather of the few preceding months. One year the three pairs of swans nearest to me had each a brood of nine—27 cygnets in only three families. But this is above the average. I have, however, seen seven reared on a very small moat. It is better not to gratify any unnecessary curiosity respecting the eggs; indeed the parent birds will hardly allow it. The cock makes great show, and often more than show, of fight against interlopers. A blow from his pinion on land is better avoided; and in the water he would bother the strongest swimmer to escape from his fury. I was once attacked by a

swan when walking too intrusively near his lady's lying-in bed; he was keeping guard by sailing in short tacks backwards and forwards before her, but he left the water to give me a forcible hint to go about my own business. The only thing was to meet the threatened danger; so seizing his neck in one hand and his outstretched wing in the other, I tossed him as far into the middle of the stream as I could. He seemed a little astonished for a few moments, but lashing the waters into foam he would have renewed the attack had I not speedily withdrawn from his dominions. Coming to close quarters with them is the surest mode of defence. The blow of a swan's wing, to take effect, must hit a certain distance. It is clear they are mischievously minded at such times; but I think that the real danger to be apprehended has, from policy, been exaggerated, that it may act as a sort of guardian dragon to the tempting fruit of the Hesperides. There are possibly persons living who would not be unwilling to have it believed that hares and pheasants are most formidable creatures to encounter, especially on moonlight nights.

The cygnets when first hatched are of a slaty grey, inclining to mouse color. The time of incubation is six weeks, or thereabouts. A common notion in Norfolk is that the cygnets cannot be hatched till a thunder-storm comes to break the shells, and that the hen will go on sitting till the birth of her young ones is complimented with that portentous salute. A swan might boast with Owen Glendower—

"At my nativity

The front of heaven was full of fiery shapes,
Of burning cressets; know, that at my birth
The frame and the foundation of the earth
Shook like a coward."

Let us not reply in the contemptuous language of Hotspur, nor altogether reject the popular idea; the close sultry weather which sometimes for two or three days precedes a tempest, would hasten the development of chicks that were nearly arrived at the hatching point. What effect electrical oscillations have on animal life we as yet know not, but our own feelings tell us they have some. The happy parents will charge themselves with the entire maintenance of their tender young, if they have but the range of a large extent of river banks and shallow water; will lead them up the quiet ditches, point out the juicy blade, the floating seed, the struggling insect, the sinuous worm; will then steer to shoals left by some circling eddy, and stirring up the soft sediment with their broad feet show that minute but nutritious particles may thence be extracted. As hunger is satisfied and weariness comes on, the mother will sink in the stream till her back becomes an easy landing place, and the nurslings are thus transferred in a secure and downy cradle to fresh feeding places.

But in a restricted beat they must not be left altogether to themselves. A gently sloping bank

will enable them to repair at pleasure to the grassy margin. The old ones must have plenty of corn, which they will by and bye teach their young to eat; tender vegetables from the kitchen garden, such as Endive, Lettuce, or Cress, will help to sustain them, besides attracting those soft-bodied water creatures that are of all food the most needful. Pollard frequently scattered on the surface of the pond will be of material assistance, and whatever it is found that they will eat let them have in the greatest abundance. Their growth is rapid; their weight should be considerable with but little time to acquire it in. The period cannot be extended much longer than from June to the end of November. By Christmas they must all either be eaten, or have emigrated, when the parents will begin to direct their thoughts forward to a succeeding family.

A fat cygnet is a capital dish, and deserves a higher repute than it generally obtains. Its stately appearance on the table is alone worth something. Those who have only a good sized pond, say from a quarter to half an acre of water, may rear and fat an annual brood. In so small a space, the old birds must of course share with their young the extra supply of fattening corn; but they will get through the winter the better for it, and be more prolific in the spring. Neither they nor their cygnets should at any time be allowed to get poor.

When cygnets are removed from their parents to be fattened in a regular swan-pond, it is usual to separate them at the end of August or the beginning of September. At first Grass is thrown into the water to them twice a day with their other food; but this is not continued for more than a fortnight. A coomb of Barley is the established allowance to fat each swan. The corn is put into shallow tubs set just under water. The birds are considered worth from 10s. to 12s. each when they are "hopped" or "upped" from their native streams, but when brought into prime condition 2*l.*, formerly 2*l.* 2s. They may occasionally be had for less, in which case they make a cheap as well as a handsome dish to set before a large dinner party. Their weight in the feathers varies from 25 lbs. to 28 lbs., and sometimes, though rarely, 30 lbs. They are never better than in the month of October, when the gastronomical inquirer, who is as yet unacquainted with their merits, is recommended to give them a fair and impartial trial. They may be had till Christmas, after which they are good for nothing. A bird weighing 28 lbs. before Christmas, has been known to shrink to 17 or 18 lbs. by the end of January, in spite of high feeding. Therefore, make hay while the sun shines, Mr. Epicure. As, in the spring, the Snowdrop gives way to the Primrose and the Violet, so, in autumn, the swan yields its place on the board to the turkey and the guinea-fowl. If to-day is lost, to-morrow the opportunity will have flown, in higher concerns than mere eating and drinking. Now—or, perhaps, never.

The swan-feasts that seem to have left the most pleasing impressions on the palates of the partakers have been solemnised in the course of the month of September. As to the mode of dressing, those artists who are skilled in the treatment of venison will easily cook swan, viz., with a meal crust over it to keep the gravy in. Instead of stuffing it with sage and onions, like a goose (vulgar condiments to vulgar birds), use rump-steak chopped fine and seasoned with cayenne and salt. When browned, and served to an admiring circle, let it have rich gravy and currant jelly, the latter hot as well as cold, in respectful attendance.—And is that all? No; the best remains behind. The hash next day is worth riding 20 miles to eat. Nay, more; the giblets make soup before which ox-tail sinks into insignificance. The mere writing about it has made me hungry. Mr. Yarrell gives some information on the subject, which I will not wrong him by pirating. See "British Birds," vol. iii. p. 127. He has also collected a curious list of swan-marks. I will mention two instances of swans doing well in a very small scope, as an encouragement to those who are inclined to establish a couple of these fine birds where there may be but little apparent accommodation for them.

The first occurred some years ago at Bircham Tofts in Norfolk. A single swan, driven out or wandering from Houghton, it was supposed, but never known exactly, took possession of a pond, and not being claimed remained there several years. It was not fed, but we may believe that in hard winters some charitable farmer threw it a little drop corn; and so it continued happy and well. But in the same parish there was, at a short distance, another and a smaller pond, to which the swan would occasionally walk when provisions fell short in his original residence. In one of these removals he was stoned by the village boys, and so much injured that he died. Being desirous to know whether there was any peculiarity in the aquatic vegetation of the pond, which rendered it capable of supporting such a large bird so constantly, I requested to have a sample of weeds taken from it at random; and was most obligingly supplied by the occupier. But there was nothing which may not be found in every other pond in the county—*Brook-lime*, *Persicaria*, *Myosotis*, and the commonest weeds. How far worms, larvæ, and small molluscs may abound, I am unable to say.

The second case, which must be well remembered by all travellers from Norwich to London by the Bury road, is at Long Stratton, in Norfolk, where swans have for some years been kept in the smallest piece of water I ever saw occupied by them, and yet they have always appeared healthy and contented. The water is exposed to the high road without any fence whatever, and the swans became so tame as to eat from the hand of casual passers by. But owing to ill nature, or mere mischievousness, perhaps, there

has been a sad succession of individual tenants of the lake. About 30 years back a pair of swans were put into this very small pond or canal, which lies before the mansion of the Rev. Ellis Burroughes. This pair remained there about 15 years, but never bred, probably on account of their limited scope and confined and exposed situation. However, they kept the water quite free from any weeds, and also fed upon the Grass that grew by the water's edge. They were besides constantly supplied with a quarter of a peck of Oats every morning during the summer months, and in winter their supply of dry food was increased in proportion to their wants. They also got many odd bits of bread from the neighbours, which they would eat if thrown into the water; they were very fond of the leaves of Cowslow, and were familiar enough to take them from the hand. After this it is grievous to be informed that one of them was stoned to death (as was believed), and that at the end of a few months the survivor met with a similar fate. It is melancholy to reflect that there should be in the world so many and malignant people who murder so themselves in this sort of spirit: "Ah! you are a great person, keeping swans and so on! You think they look very grand sailing before your house! You're getting up very fast! Other people can't keep swans, but other people are just as good as you. You think nobody can let you down, can you? We'll see!" And next day the swan of the neighborhood is found mutilated or murdered.

It is needless to go through a list of fresh arrivals that were successively maltreated and destroyed, but we will hurry on to the last, a beautiful and majestic bird, of which, after a residence of 4 or 5 years, my informant writes, "for shame be it spoken, some villain broke his neck, and now (March, 1848,) there are none."

This last instance enables us to make a rough estimate of the cost of maintaining a pair of swans. Those at Stratton had a quarter of a peck of Oats a day in summer. But in less in-commodious places, and where garden rubbish was supplied, two pecks a week would be a fair allowance for all the year round. This amounts to 6½ coombs per annum. Take the Oats at 15s. per coomb, as, if they are to be bought, the best are the cheapest, and the annual expense is 4l. 17s. 6d.—a sum soon spent in cleaning an artificial lake by human labor. On the other hand, half a dozen cygnets ought to be reared, and cannot be set down as worth less than 10s. each. Any farmer who has plenty of tail coat, will have no occasion to buy anything for them, as he can send a little of that to be ground for the cygnets; and it will be better than heavier meal, that would not float so surely. But if the swan-keeper be hospitably disposed, and choose to eat the cygnets with his friend, instead of selling them to the dealers, the brood cannot very justly be brought over to the credit side of his cash account at least.

—*Ornamental Poultry.*

HORTICULTURAL SOCIETY'S EXHIBITIONS.—If there is one feature of these great exhibitions that is more worthy than another of provincial imitation, it is the strict adherence to the rules and regulations laid down for their conduct. It has often been our lot to witness the bad effects of the contrary practice at country shows: subjects admitted after the hour had passed for their reception; tents not cleared of exhibitors at the time appointed; and everything thrown into disorder, from want of carrying out, at every cost, the printed laws for their regulation. If the committees would but act firmly in every case, those exhibitors who, from indolence or neglect, were properly excluded, would be more careful for the future, and would make their arrangements accordingly. But to our immediate work,—a description of the preliminaries to the Chiswick exhibition. The Gardens are part of the Duke of Devonshire's Chiswick estate, and consist of 33 acres; the portion occupied by the exhibition, and laid down in Grass, planted with an extensive variety of plants and shrubs, is about 9 acres. To the Garden there are three entrances: the principal one from the carriage-road, leading from Turnham Green to the Duke's mansion; another from off the Green itself, leading immediately to the Council-room; and a third, the carter's entrance, by which alone all the objects for exhibition are received. As we enter the Council-room, we pass the great conservatory, as represented in the right of the woodcut (vol. i. p. 180), and then reach a tent, 173 feet long, and 33 feet wide; to the left of that another is erected, 225 feet long and 30 wide; and immediately at the end of this is another, known as the iron tent, 100 feet long and 25 wide, running straight for a part of its length, and then expanding into a half-circle, 25 feet radius, for the exhibition of the large collections of miscellaneous plants. At right angles with this is the remaining tent, 75 feet long, and 25 feet wide. All of them are divided down the middle by a sufficiently high partition to make a suitable back for the plants arranged on either side. Our usual time for being at the Gardens is about 6 o'clock A. M., and we enter at the carter's entrance. From the different roads leading on to the Green, vans of various constructions, with as various coverings, are seen wending their way to the general rendezvous. Each exhibitor, as he enters, signs a declaration of what he is intending to exhibit, and in what class; and until he does this, his productions are not allowed to proceed to the place of unloading. Before this rule was established, it was not unfrequent for an exhibitor to make himself acquainted with the strength of an opponent, and then enter the lists accordingly. We will, however, leave the van-road, and taking a footpath through a part of the gardens containing the glass erections, we reach the tents. Here are to be seen plants standing about in all directions; gardeners busy arranging them in places pointed out by one of the Society's officers ap-

pointed to this duty; laborers with hand-barrows, carrying the contents of the vans to the different exhibitors; persons are to be seen moving about in all directions, with choice specimens under their arms; and a multitude of gardeners, not exhibitors, walking about and examining the different plants, a privilege granted them upon the understanding that they move amongst them carefully, and keep out of the exhibitors' way. It is a most interesting sight to watch how all the confusion of beauty gradually assumes the most admirable forms of arrangement; no noise, no bustle, nothing to indicate that the smallest difficulty exists. Each exhibitor, as he gets his collection arranged, goes to a place appropriated to this purpose, where several clerks, in answer to his application, supply him with cards on which the necessary letters are written, with which he returns to the tent, where a person who performs this duty tacks them down upon the stage in front of his collection. It is to be remembered that all the plants are secured for travelling safely, and consequently that, as they are arranged, all extra supports have to be removed; cotton-wool, &c., that has been placed to prevent injury to the flowers in their transit, is also taken away, and everything that detracts from their beauty. The litter made in doing this is swept up and removed by persons appointed to the service; and the exhibitor, after arranging all his plants, taking a look to see that all is as it should be, goes in search of 'the Doctor.' Professor Lindley, the Vice-Secretary of the Horticultural Society, is early on the ground, and, moving about in all directions, sees that everything is going on properly; he is also at hand to refer to in cases of difficulty respecting the arrangement of plants. As the day advances, he generally takes a place where he is readily found. The exhibitor goes to him and asks for tickets: these are of two kinds,—the one for breakfast, the other for admission when the grounds are thrown open for the visitors at 1 o'clock. Regular and well-known exhibitors are supplied with both forthwith; to others the questions are put, 'What have you brought?' If important enough to merit tickets, the additional question is asked, 'Are they arranged?' If they are, the tickets are given; if not, they are refused until that is done. If the matters brought for exhibition are unimportant, tickets are not granted. By the time all the plants are arranged, it is full half-past 9, and men are seen sweeping out all the tents, gathering the litter together and removing it; and before the principal exhibitors have had a look at the general features of the whole, it is 10 o'clock, and a body of policemen, commencing at the further extremity, courteously say as much, requesting everybody to leave the grounds; and scarcely have they done this, ere the judges are seen entering in another direction to perform their important duties. But we will go out with the party with which we entered; and in doing so, outside the garden-wall, but within the Society's

gates, we come to a building which was closed at our entrance, but is now filled or filling with gardeners, who, presenting a ticket, sign their names in a book, and then take their place at a long table, where they are at once supplied with tea or coffee and cold provisions, all of the very best quality, and in great abundance. The floor above is provided with water, soap, towels, and all the other requirements for exchanging a working face, hands, and clothes for a holiday suit; and we believe we speak the sense of the whole body of the exhibitors at Chiswick when we say, that this part of the Society's arrangements is valued in no common degree, as having very greatly conduced to their comfort and enjoyment on these interesting occasions. We have also much pleasure in stating, that we understand the Council are entirely satisfied with the results of this arrangement. Let us not forget to record that many of those enjoying this refreshment have been travelling all night, after a previous hard day's work, packing and preparing; indeed, some have come as far as from Exeter, and before twelve hours have passed will be returning there again.—*The Florist and Garden Miscellany*, for June.

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NEW WEEPING CYPRESS.—The introduction of a new hardy evergreen tree into this country is an event that is seldom noticed at first in the manner it deserves. This arises from our being in general imperfectly acquainted with the history of such plants; and the result is most unfortunate, for till experiment has decided whether such a plant is hardy or not, nobody knows what to think or do—the seedlings are neglected, put aside, or ruined by being cramped in pots, and at last, when their value is discovered, the race has become almost extinct, and the constitution of the survivors is, for the most part, ruined beyond recovery. This has most especially been the history of Conifers; and *Cryptomeria* is a striking example of the practice. Of this fine species, thousands of seedlings were distributed by the Horticultural Society, and where are they now? The greater part have perished, because the public was unacquainted with the value of so beautiful an evergreen. There was no certainty that it was hardy, and now that experience has shown that our winters will no more touch it than they will a Spruce Fir, the old stock is gone and fresh supplies must be sought in China. It was the same with the *Araucaria* of Chili, with the *Deodar*, and with many others.

An acquisition of the highest interest, lately received by Mr. STANDISH, of the Bagshot Nursery, will undergo the same fate, unless the history of it, and the certainty of its being still more hardy than *Cryptomeria*, shall be pointed out, so as to leave no room for misapprehension. We allude to the **FUNEBRAL CYPRESS**.

This plant was first mentioned in Lord MACARTNEY'S Voyage, as growing in a place called "the Vale of Tombs, near the tower of the thundering

winds," in the province of Zhe-hol; which is a mountainous district, lying in latitude 41° 58' N., in Chinese Tartary, and has a far more rigorous climate than is ever known in England. The plants found in this province consist of hardy northern forms, Oaks, Elms, Ashes, Willows, Pines, Elders, *Sophora japonica*, together with herbs of northern habits, calculated to bear severe frost, such as *Asters*, *Pæonies*, Solomon's Seal, Pinks, &c. In the foreground of the landscape, representing "the Vale of Tombs," is a specimen of *Funeral Cypress*, much resembling a Weeping Willow; and the weeping tree so commonly represented in Chinese paper-hangings and porcelain is evidently the same species.

The seedlings in the Bagshot Nursery were raised from cones lately procured by Mr. FORTUNE, while at Shanghai, from a place 200 miles to the north of that port. We have also received a dried specimen of it, which enables us to say that it must be a plant of the greatest beauty. It may be best described as a tree like the Weeping Willow in growth, with the foliage of the *Savin*, but of a brighter green; it is, however, not a *Juniper*, as the *Savin* is, but a genuine *Cypress*. It has long been a subject of regret that the Italian *Cypress* cannot be made to endure our climate, and to decorate our burial-places; but we have now a finer tree, still better adapted for the purpose. *Gardeners' Chronicle*.

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POTATOES IN INDIA.—The potatoes from Bombay, Darjeeling and Cherra Poonjee seed, were wonderfully fine and healthy, and to enable the public to form some idea of the state of perfection this grand and staple vegetable has been brought to in this district, it is here recorded that 40 potatoes out of one garden weighed 20 lbs. The skin of all delicately white and fine, and every potato free from knots. *Journal of the Agricultural and Horticultural Society of India*, May, 1848.

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TO PREVENT POTATO ROT.—Here is also a plan of management, proposed by Mr. H. L. Meyer, which deserves to be made generally known. In a paper read to the Royal Agricultural Society, he made the following recommendation:

"I propose a method of protection which, I think, may be equally effective against any one of the above mentioned causes of the disease, whether animal, vegetable, atmospheric, or electric. I propose to cover up the plant with the readiest material at hand,—namely, the soil it grows in. The manner in which this must be done is, by laying down the haulm, and covering it over with earth from the root to within a few inches of the extremity, leaving only the tips of the plant exposed to the benefits of light and air. A field, when thus treated, presents to view a succession of ridges of earth and valleys; the ridges contain the potatoes and the stems of the plants earthed over, and in the valleys or furrows

lie securely the tips of the foliage. Should the injurious blight occur while the field remains in this state, the tops of the plants are greatly sheltered from its influence by the ridges of earth they lie between. Nothing further will be required but to watch the field, and continue to cover up the haulms from time to time, so as to keep only the tips exposed. The process thus described should be immediately put in practice, instead of the usual method of 'earthing up,' and while the stems of the plant are still pliant and manageable. This simple process will not require any outlay, and in point of labor only stands in the place of the usual method of earthing up.

* * * The best way of putting this mode in practice is, by laying down the haulms with the hand, and afterwards covering them with the earth that lies between the rows. The earlier the plant can be attended to, as I have proposed, the less it is liable to receive the germ or inoculation of the infection; but owing to the present advanced state of the plant, it may be advisable to administer lime or some other purifying substance before covering the haulm. It is desirable to lay the stems down in a direction away from the east, as much towards the southwest as possible, because it is from the east that blights of all descriptions appear to originate. The usual manner of planting potatoes being in rows only sufficiently apart to allow room for the underground shoots and tubers to vegetate, it will be found necessary to lay the haulms of the plant down in

a slanting or oblique direction, so as to let the exposed tops of the haulm reach only to the centre of the valley or furrow, thereby gaining the double advantage of room and protection."

This experiment was carefully tried in the Garden of the Horticultural Society in 1848, and with success; for although, as was to be expected, the amount of produce was diminished (not, however, to the extent of more than 3 cwt. per acre,) the proportional quantity of sound potatoes obtained was more than seven times that of the rows on each side. We regard this as an artificial method of curbing the luxuriance of the potato, which it does very effectually; but whether that be so or not, it will be well to repeat the trial under varied circumstances, in order that its true value may be ascertained. The plan has this merit, that it seems incapable of doing any harm.

Another experiment was tried in the same establishment. Some haulm having become much decayed, by the 9th August, it was pulled up, and the ground was beaten and rolled as hard as possible. "Every alternate half-row being left for comparison. The rows ran north and south. The half of the first row at the south end was rolled, the north end of the next, the south end of the third, and so on alternately. The average sound produce was somewhat less in the rolled than in the unrolled portions; but the quantity *diseased was not half so great in the rolled portions as it was in the unrolled.*" *Gard. Chronicle.*

DOMESTIC NOTICES.

GERMAN GREENS.—We have already (see vol. iii, p. 532,) spoken of this excellent vegetable.

As this is the season for planting it, (during all the month of August,) in order to have it ready for early spring use, we venture again to say a word in favor of what we consider a great acquisition to our list of cheap and popular vegetables,—one which we hope to see in every cottage and farm garden in the country, both because it is so useful, and so easily grown.

The "German Greens" are, in fact, a species of kale or colewort. They form, in spring, a tuft or head of curled leaves, of a purplish colour, about as large as a head of lettuce, and with a flavor (when boiled and served up like common greens, or like asparagus,) very nearly resembling brocoli. In good gardens, where little extra pains can be taken to *blanch* the leaves, by turning a flower pot over each plant in spring, it will add considerably to their delicacy when cooked.

To raise German greens is as easy as to raise turnips. Any good soil will answer, with no preparation but digging. Sow broadcast; and

when the plants get their third or fourth leaves, thin them out and hoe them exactly as you would turnips. No further attention need be given them, till you wish to gather them when the succeeding spring opens.

They commence growing as soon as the snow and frost leave the ground, and are in use from that time till asparagus comes. They are, to our taste, better than spinach or any other spiey greens, and cost far less trouble in the cultivation.

As Messrs. THORBURN & Co., seedsmen, New-York, obligingly introduced this plant to our notice a year ago, by presenting us a considerable package of the seed, then just imported, we have just returned the compliment, by sending them a few pounds of seed—the product of that package—which our gardener has raised, after supplying our table in the spring most abundantly with the vegetable itself; and we shall now trust to Messrs. T. & Co. to disseminate the German greens to all parts of the country; for useful and valuable as this vegetable is, as yet it is scarcely at all known in the United States.

NORTHERN SPY APPLES.—We received from Mr. SAMUEL MOULSON, of Rochester, a box of Northern Spy apples,—handsome, fresh, and of excellent quality, on the 21st of June last. There are very few late keeping apples that will compare with this at the season of its latest perfection; and we suggest to nurserymen to grow it on Paradise stocks, as it will be in demand as a dwarf apple for amateur gardens.

ROSES IN MID-SUMMER.—There is no season when flowers are so scarce and so much valued in this climate as in the month of July. The wealth of blossoms of spring and early summer is past, and the richness of autumn flowers has not yet commenced. In short, it is precisely the florists' "short commons" of the whole season. To make the matter worse, we have occasionally a mid-summer drouth, which parches almost every plant so that the flower beds are guiltless of the least gayety.

I know that we ought to depend upon the ever-blooming Bourbon, Perpetual, and other roses for beauty and fragrance at this season. But, alas, they also fail if the season is dry. I say, if the season is dry; for I have found that with the least moisture, the new growth of the everblooming roses recommences. What they want, then, is constant moisture; and this we can, I think, supply to a few beds, if we keep our everblooming roses in beds by themselves, as we ought always to do.

And this leads me to say that one of the prevailing fallacies of our gardeners, is that of planting flowers in our dry and hot climate in *raised or convex beds*; that is, beds rounded up in the centre, so as to throw off all the light showers. Now the practice, as a moment's reflection will convince us, should be exactly the reverse. In other words, your everblooming roses, and all summer or autumn blooming flowers, should, in our climate, be planted in *concave beds*; that is, beds with the surface depressed to the centre, like a shallow dish.

I have tried this mode, and find the difference greatly in favor of the concave beds. Every shower fills the concave bed, and thoroughly soaks the roots of the roses, and sets them into a vigorous growth, causing the product of abundant new flower shoots; while the same shower only slightly moistens the convex bed,—the larger part of it being shed off by the sloping surface.

There are the same advantages in watering the convex beds. I may also remark, *en passant*, that four beds of Bourbon and Tea roses, on which I have had all the soap-suds and waste water of the *week's washing* emptied since May, have been continually covered with brilliant flowers from the middle of May to this day. Yours respectfully,
An Amateur. New-York, July 19, 1849.

PYRAMIDS OF EVERBLOOMING ROSES.—*Dear Sir:* Nothing is so easily grown as a Prairie

rose, as your readers are all aware. It is so vigorous, so healthy, and so hardy. The best mode of growing it in the garden, is trained to a stout pole about eight feet high. In this mode it forms a fine pyramid of foliage; and if the best sorts—such, for instance, as the "Queen of Prairies"—are chosen, the effect, when in full bloom, is quite magnificent.

But the Prairie roses only bloom once. After June, one has no flowers on these fine pyramids. Thinking of this defect, it occurred to me three years ago to bud a couple of these pyramids in various places with the hardier Bourbon Roses. It has succeeded to a charm. They unite very readily with the Prairie stock, and bloom abundantly for several months after the blossoms on the Prairie shoots are past by. I have one before my window at this moment, on which Souvenir de Malmaison and General Dubourg are loaded with flowers. I do not cover the whole pyramid with the everblooming shoots, (though perhaps this would be the best course,) but prune the Prairie shoots in so as to preserve a due balance, and give each a fair chance. Yours, *A Philadelphia Subscriber. July 12, 1849.*

DISEASED PEAR LEAVES.—*Dear Sir:* I have observed on my "Butter," or "Virgalieu" pear trees, a disease on the leaves. It attacked the leaves, I think, about the 20th ult, and looks like spots of black mould. Previous to the leaves being spotted, I saw no disease on the fruit; but soon after the leaves became diseased, the fruit also became diseased or spotted in the same manner.

I have also noticed that on some parts of the trees, the leaves are more diseased than on other parts; and wherever the disease is the worst on the leaves, it is also worse on the fruit. Some of my neighbors have noticed that their "Virgalieu" trees are diseased in the same way.

It is barely possible that the disease attacks the leaves first, and the fruit afterward; and if so, we may yet be able to reclaim this fine old variety.

I enclose you two leaves with the disease attached to them. I observe, also, the Beurre Gris is attacked the same way in the leaf. I am, dear sir, yours truly, *Tho. Hancock. Ashton Nurseries, Burlington, N. J., July 6, 1849.*

[We have examined the leaves sent, and recognize the disease as an old acquaintance.]

It is a feebleness or want of vitality in the epidermis, or outer surface of the leaf, and, as our correspondent conjectures, makes its appearance in the leaf first, and afterwards in the skin of the fruit, which is spotted with small patches of a brown or black colour.

It is undoubtedly owing to a want of specific food in the soil. A very liberal manuring of ashes and strong animal manure will bring the tree into good health again, when the disease will disappear. We have seen it tested lately, in

two instances, with complete success. But in the case of large and old trees, it is not sufficient to give the soil a top-dressing of these manures. A trench must be dug all round the outside of the roots,—the old soil thrown aside, and the trench filled with new soil, mixed with ashes and animal manure. Ed.]

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MOWING MACHINE.—Before good lawns can become common in this country, there must, I think, be a labor-saving machine invented for cutting the grass. It has occurred to me that shears, (not unlike the cloth shears used in a factory,) might be attached to a one horse roller, with which it would be but a boy's task to cut and roll a lawn. It seems to me that an ingenious person could invent a machine, combining these two features of the roller and shears, or cutting blades. I suggest it, hoping some gentleman will take measures to have such a thing made. Yours, *J. C. R. Dalton, Ohio.* [There are mowing machines now in use, in England, which mow and roll lawns very well; but they only work on perfectly level and smooth surfaces, so that the scythe, after all, holds its place for general purposes. Ed.]

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ANSWERS TO CORRESPONDENTS.

APPLES.—*J. W. B., (Delaware.)* The specimens you sent us are not White Juneating, but Early Harvest,—a larger and better apple than the former. Sugar-loaf Pippin is now (July 22d,) beginning to ripen in our garden. It is a good and constant bearer, and a handsome fruit—the flavor only tolerably good; but it may prove a good market fruit.

FRUIT-ROOM.—*A Subscriber, (New-Haven.)* The best place for a fruit-room is, we think, under ground, so as to preserve a uniform temperature. It should be kept rather dark, but well ventilated and dry. The nicest point is to clear out everything like decay *every day*, without fail; as the fungus which causes the rotting of fruit spreads from one to another very rapidly,—so that in a short time, a dozen decaying pears will communicate the decay through the whole fruit-room. Emerson's ventilators, now so much used about Boston, would answer admirably in connection with a fruit-room, and would enable us to keep it dark, and yet fresh and cool.

CARNATIONS.—*A. N., (New-Bedford.)* Lay your carnations immediately. It should have been done a fortnight ago. For directions, see vol. i, p. 78. If you are careful to *water* the layers every evening, they will still root finely before November.

BISQUE LABELS.—*Mr. BUIST*, seedsman and florist, Philadelphia, informs us that the price of these beautiful and useful labels, is from \$2 to \$2.12 per 100, of three or four patterns.

PLUM ON PEACH STOCK.—*H., (Syracuse.)* The objection to working the plum on the peach, is that it makes the plum comparatively a short lived tree. The peach stock being much more liable to the attacks of insects than the plum, it is also less valuable on that account.

GARDEN VASES.—*A New Subscriber, (Burlington, Iowa.)* You can procure various patterns,—some of them fine ones, at the warehouse of *JAS. LEE & Co., 11 Broad-street, New-York.* They are quite durable,—being made of a species of fire clay.

ANNUALS.—*W. A., (Staten Island.)* The Californian annuals,—*Platystemon, Nemophila, Clarkias*, etc., all require to be grown in the shade. Your failure is owing to your planting them in the open border, exposed to the sun. They will do far better if sown the latter part of this month; as the young plants will stand the winter well, and bloom, most acceptably, in May next.

CUTTINGS.—*A Lady Florist, (St. Louis.)* In order to carry your Verbenas, Petunias, Salvias, etc., through the winter safely, you should strike the cuttings this month. They will root very readily now, if planted in pots, and the pots placed in a glazed frame, set in a shady situation.

DAHLIAS.—*W. Williams.* Place some mulching of grass, straw, or litter, over the roots of your choice Dahlias. It will keep them cool, and preserve that moisture without which they cannot bloom freely. To entrap the earwigs which infest this plant, eating off the flower buds, place a small flower-pot, inverted, upon the stake with a little hay in the bottom, or put some bean-stalks amongst the branches, and examine them every morning, blowing off the insects into a basin of hot water.

APRICOTS.—No sorts can be depended on for a crop like either Breda, or Dubois' Early Golden. The latter is the earliest. The Large Early is larger, handsomer, and better flavored, but not so good a bearer.

HORTICULTURAL SOCIETIES.

PENNSYLVANIA HORT. SOCIETY.

The stated meeting for July was held on Tuesday evening 17th. The President in the chair. Taking into view the season occurring before the maturity of fruits, and when exotic plants were mostly out of flower, an indifferent display was anticipated, and yet to the surprise of visitors, there was a fine show. Among the fruits there were choice specimens of Grapes raised under glass—a cluster of Black Hamburg from Judge Kane's green-house, contained berries of remarkable large size; and fine bunches, same variety, were shown by the president's gardener and William Westcott; two dishes of a white variety, Malagas and Chasselas were exhibited by Sam'l. W. Gumbes, of Montgomery Co., of unusual size: Moorpark Apricots of handsome appearance, were presented by John Anspach and Jas. Furness; Miser Plums, by A. Parker; a fine bunch of Bananas and a dish of Nectarines from Jas. Dundas' green-house: Pears of Muscat Robine variety, by Isaac B. Baxter; Apples, Early Harvest and Summer Queen, by John Perkins; and Raspberries and Gooseberries from the President's garden.

The following contributors each furnished tables of beautiful flowering plants.—Robert Buist, Caleb Cope, James Dundas, Fred'k Lennig, John Lambert and Miss Gratz.

Vegetables in great variety and profusion.

The following awards of premiums were announced. For the intermediate meeting, July 3d, 1849. The committee on plants and flowers awarded the premium for the best six varieties of Carnations, to Robert Buist; for the second best ditto to Matthew Mills; for the best American Seedling Carnation, Robert Buist; for the best six varieties of Picotees; for the best American Seedling Picotee, to Robert Buist.

The committee for awarding premiums on fruit, beg leave to report, That they have awarded the premium for the best two quarts of Red Currants, and best White Currants, to J. J. Jennings; for the best two quarts of Black Currants, to Maurice Finn, gardener to Jno. Lambert; for the best quart of Gooseberries (the Angler) and for the second best do. (Bunker Hill) to Isaac B. Baxter; for the best quart of Raspberries, (Red Antwerp) to Thos. Hancock; for the second best, (the Fastolf) to Wm. Hill.

The committee award a special premium of two dollars, for a beautiful and delicious Pine-Apple, raised under glass, to James Bisset, gardener to Jas. Dundas.

The committee notice with pleasure, six new Seedling Raspberries, of fine size and flavour, shown by Robert Buist. No. 1 is very large, round, and of a cream color; No 5 is also very large, conical, and of a yellow color. These two the committee think are eminently entitled to especial notice, and will be held under consideration for future action; the other four kinds were of crimson color.

Some fine specimens of Northern Spy Apples were shown by Samuel Moulson, of Rochester, N. Y., on the present occasion.

Report of the Committee on Plants and Flowers for the Society's stated meeting, held 17th July, 1849.

For the best hot-house plants, to Ben Daniels, gardener to C. Cope; for the best green-house plants, and the second best ditto, to Rob't Buist; for the best collection of plants in pots, to Jas. Bisset, gardener to J. Dundas; for the second best collection, to David Scott, gardener to Frederick Lennig; for the third best collection, to Ben Daniels; for the best display of indigenous plants, to Thomas Meehan; for the best bouquet of indigenous flowers, to Robert Kilvington; for the best basket of cut flowers, to Ben Daniels; for the second best basket, to Robert Kilvington; for the best basket of indigenous flowers, to Rob't Kilvington, and a special premium of one dollar to Maurice Finn, for a pretty basket of cut flowers.

The fruit committee beg leave to report that they have awarded the following premiums: *Grapes*. For the best three bunches, black variety, Black Hamburg, to Wm. Westcott; for the second best ditto, to Ben Daniels; for the best three bunches white variety, White Chasselas, to Fred'k Wolfe, gardener to Sam'l. W. Gumbes, Montgomery Co.; for the second best ditto, to the same. *Apricots*. For the best one dozen Moorpark, to John Anspach, jr.; for the second best Moorpark, to James Furness. *Plums*. For the best the Miser, to A. Parker. *Pears*. For the best six specimens Muscat Robine, to Isaac B. Baxter. *Apples*. For the

best one dozen Early Harvest, to John Perkins; for the second best, Summer Rose, to the same.

The committee also award special premiums of one dollar each, for a fine bunch of Bananas, and for a dish of Nectarines, to Jas. Bisset, gardener to Jas. Dundas.

The committee specially noticed a bunch of very fine Black Hamburg Grapes from Judge Kane's green-house.

The committee on vegetables beg leave to report that they have awarded the following premiums:—for the best display of vegetables by market gardeners, and for the second best display, to Anthony Felton; for the best display by amateur gardeners, to Patrick Gallagher, gardener to Miss Gratz; for the second best display, to Ben Daniels, gardener to C. Cope; for the third best display, to John Austin, gardener to Isaac B. Baxter, and special premiums of one dollar each, to F. Wolf, gardener to S. W. Gumbes, and Maurice Finn, gardener to John Lambert.

Objects shown at the intermediate meeting July 3d.

By Robert Buist, 12 Picotees, 6 Carnations, Seedling Picotee and Carnation.

By Matthew Mills Frankford, 12 Carnations and Flake Seedling.

By J. J. Jennings, 6 Carnations, Picotees and Seedlings.

By Robert Kilvington, 12 Carnations and Seedlings.

Fruit—By James Bisset, gardener to Jas. Dundas, Pine Apple.

By J. J. Jennings, White and Red Currants and Gooseberries.

By Patrick Gallagher, gardener to Miss Gratz, Gooseberries, White, Red and Black Currants and Seedling Raspberries.

By Thos. Hancock, Raspberries, large Red Antwerp. *Now* the first time of fruiting, Fastolf, White Antwerp and Perpetual.

By Isaac B. Baxter, Gooseberries, Angler, Bunker Hill and Greenwood varieties, and Red and White Currants.

By Robert Buist, six fine Seedling Raspberries.

By Maurice Finn, gardener to J. Lamont, Gooseberries and Black Currants.

By Wm. Hall, Raspberries, Fastolf and Black Genesee, and Red Currants.

By Samuel Moulson, Rochester, a dish of Northern Spy Apples.

Objects shown on the 17th July—stated meeting.

Plants.—By Robert Buist, Robert Scott, foreman, Pentas carnea, Fuchsia coronet, F. Caroline, F. gigantea, Plum ago Lar panta, Lilium punctatum, Gloxinia speciosa and Amaryllis, Buistii.

By Ben Daniels, gardener to C. Cope, Oncidium papilio, Gongora maculata, Acropera Lodigiesii, Macredenia lutea, Bilbergia pyramidalis, B. var. Swainsonia galigifolia, Fuchsia coralina, Achimenes grandiflora, A. picta, A. rosea, and A. pedunculata.

By James Bisset, gardener to Jas. Dundas, Torenia asiatica, 2 Justicia carnea major, Trachelium ceruleum, 2 Achimenes grandiflora, Columnea Roxburghii, Ruellia formosa, Gloxinia speciosa, G. candida, Bassia rotundifolia, etc.

By David Scott, gardener to F. Linnig, Erythrina cristagalli, Torenia asiatica, Rondeletia speciosa, Pentas carnea, Cyrtoceras reflexa, Begonia parviflora, Russelia juncea, Gloxinia of var., rubra grandiflora, digitalifolia, Cartoni, magnifica, and delicatissima.

By Maurice Finn, gardener to Jno. Lambert, Russelia juncea, Hydrangea hortensis, Brugmansia dorbunda, Justicia anisophylla, clerodendron splendens, Mengesia polifolia, Helichrisam fulgidum, Justicia carnea, Litanea mutabilis, Swansonia galegifolia, Xytophyll sp., Achimenes grandiflora, A. longiflora, Rondeletia speciosa, Gloxinia sp. Pums bago rosea, Oxalis sp. Brunfelsia, grandiflora, Cyrtoceras reflexa, Gardenia radicans & G. sp.

Baskets of cut-flowers.—By Ben Daniels, R. Kilvington, Maurice Finn, P. Gallagher, Thos. Meehan, etc.

Fruits.—By Wm. Westcott, gardener for the Institution of the Ladies of the Sacred Heart, Grapes, fine bunches of Black Hamburg and White Chasselas.

From Judge Kane's green-house, a very fine cluster of Black Hamburg Grapes.

By Ben Daniels, gardener to C. Cope, six bunches of Black Hamburg Grapes, Gooseberries and Raspberries.

By Sam'l. W. Gumbes, Oakhall, Montgomery Co, six

bunches of White Grapes, Malaga and Chasselas, very fine.

By John Auspach, Moorpark Apricots.

By James Fumess, Moorpark Apricots.

By John White, Burlington Moorpark Apricots, too late for competition.

By Alex. Parker, Plums, the Miser.

By Isaac B. Baxter, Pears, Muscat Robine.

By John Perkins, Apples, Early Harvest and Summer Rose.

By James Bisset, gardener to Jas. Dundas, a large bunch of Bananas, and a dish of Nectarines.

By Gerhard Schmitz, Cherries.

Vegetables.—By Anthony Felten, two large tables well filled.

By Ben. Daniels, gardener to C. Cope, Hoo Sung, the new Chinese vegetable, properly prepared for culinary use, with a variety of fine specimens.

By Patrick Gallagher, gardener to Miss Gratz, a fine display.

By John Austin, gardener to Isaac B. Baxter, a good variety.

By Maurice Finn, gardener to John Lambert, a choice collection.

By Fred'k. Wolf, gardener to J. W. Gumbes, a good collection.

THOS. P. JAMES, Rec. Secretary.

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MASSACHUSETTS HORT. SOCIETY.

BUSINESS MEETINGS.

June 2d, 1849.—President SAMUEL WALKER in the chair.

Voted, That a delegation of five be appointed by the Chair to attend the Convention to be holden at Syracuse, N. York, and Messrs. C. W. Hovey, Josiah Lovett, 2d., B. V. French, Aaron D. Williams and Eben Wright were appointed delegates.

This meeting having been duly and legally called, for the purpose of electing a Treasurer of the Corporation, to fill the vacancy existing by reason of the resignation of Frederick W. Macdonald, Esq., and the polls having been kept open half an hour, Major Josiah Lovett, 2d, and Eben Wright, were appointed a committee to collect, assort and count votes; who reported that the whole number of votes cast was 20, all of which were for WILLIAM R. AUSTIN, Esq., of Dorchester, who was accordingly elected.

June 9th, 1849.—President SAMUEL WALKER in the chair.

The following gentlemen were elected members of the Society:—W. H. Richardson, Boston; F. W. Lincoln, Canton; and F. A. Davis, Milton.

June 16th, 1849.—Vice President BENJAMIN V. FRENCH in the Chair. S. Douner, Jr., Esq., was appointed Sec'y pro tem.

Hon M. P. WILDER, as chairman of the committee of Finance, submitted the following Report:

That the Treasurer, under the direction of said committee, had caused to be sold the following stocks belonging to the Society:—

At public auction—12 shares Boston & Worcester R. Road,			
	at 108½	1,299	
6 " Old Colony,	" 89½	483	
9 " " "	" 80	720	
Private sale, 10 " Bos't & Wos't.	108½	1,082.50	

3,584.50

Charges and Comss., 12.75

3,571.75

The above amount was passed into the Treasury, and constitutes a portion of the fund applied by the Treasurer for the payment of the mortgage on Horticultural Hall, due on the 21st ultimo.

June 29d, 1849.—President SAMUEL WALKER in the chair.

On motion of Hon Benj. V. French, it was voted, That the President take measures to have some mark of respectful reciprocity extended to such gentlemen and Institutions as shall favor this Society with donations of whatever nature.

June 30th, 1849.—President SAMUEL WALKER in the chair. On motion of Mr. Joseph Breck, it was voted, That the sum of twenty-five dollars be paid by the Treasurer to Mr. David Haggerston, for services rendered by him at the Semi-Annual Exhibition of the Society.

A communication was received from Dr. BRINKLE of Philadelphia, and it was ordered to be placed in the hands of the committee of publication, to be printed with the Transactions of the Society.

Chas. Fred'k. Adams, of Boston, was elected a member of the Society.

A stated meeting of the Society was held Saturday, July 7th, 1849.—President SAMUEL WALKER in the chair.

Mr. JOSEPH BRECK, as Chairman of the Committee of Arrangements, reported that the sum of one hundred and ten dollars and seventy-five cents, was received at the door during the Semi-Annual Exhibition of the Society.

The following gentlemen were elected members of the Society:—Thomas Rice, Jr., L. C. Childs, James Hucksins, Nicholas Delcon, and Z. B. Crooker.

EDWARD C. R. WALKER,

Recording Secretary.

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ALBANY AND RENS. HORT. SOCIETY.

The second exhibition of the society was held at the Agricultural Rooms in the old State Hall, on Tuesday, the 3d of July, and as will be perceived by the reports of the committees annexed, was in all respects such as to encourage its members to further efforts. The Hall was opened to the public at 1 P. M., and from that hour until the close of the exhibition, was thronged with ladies and gentlemen from this city, Troy, and their vicinities.

At a meeting of the society, Joel Rathbone, esq., its President, in the chair, the following gentlemen were chosen delegates to represent it in the North American Pomological Convention, which is to assemble at Syracuse on the 14th day of September next, viz: from the county of Albany, J. McD. McIntyre, Herman Wendell, M. D.; E. Emmons, M. D.; B. P. Johnson, A. Osborn, and James Wilson; from the county of Rensselaer, V. P. Douw, Stephen E. Warren, B. B. Kirtland, D. Thomas Vail, Amos Briggs, and William Newcomb. B. P. JOHNSON, Secretary.

FRUIT.

The committee on Fruit reports, that there were exhibited by—

Stephen E. Warren, esq., of Mount Ida, Troy: Seven varieties of cherries, viz: Black Tartarians, May Dukes, Elton, Early White Hearts, Black Hearts, Belle de Choisy and Napoleon Bigarreaus.

J. McD. McIntyre, Albany: Two varieties of cherries, viz: Tradescants Black Heart and May Dukes; and also some very fine specimens of Lancashire gooseberries.

Dr. Herman Wendell: Fourteen varieties of cherries, viz: May Dukes, Waterloos, Eltons, Napoleon Bigarreaus, Florence, Wendell's Mottled Bigarreau (unripe), Belle de Choisy, Carnation Bigarreau (a seedling), Grafton or Yellow Spanish, Black Tartarians, Bigarreau Couleur de Chair, Large Red Bigarreau, Black Bigarreau, and a French variety, received without label, resembling China Bigarreau.

V. P. Douw, of Wolvenhook, Greenbush: Two varieties of cherries, viz: Early Richmonds and Black Tartarians; very fine White Smith gooseberries, and Green Citron muskmelons.

B. B. Kirtland, of Cantonment Farm, Greenbush: Seven varieties of cherries, viz: Elton, Grafton or Yellow Spanish, Black Eagle, Black Heart, Honey Heart, May Duke, and a seedling resembling Transparent Guigne; eight varieties of strawberries, viz: Aberdeen Beehive, White Alpine, Hovey's Seedling, Black Prince, Ohio Mammoth, Sciota, Columbus and Burr's New Pine. This exhibition of strawberries attracted much attention from their large size and beautiful appearance, and the committee cannot omit to add, that the further opportunity offered them to compare Burr's New Pine with other standard varieties, fully confirms them in the opinion expressed at the last exhibition, viz: "That it was entitled to the first rank, taking into consideration its many desirable qualities."

By Col. Rathbone, of Kenwood: A dish of very fine Red Antwerp raspberries.

By E. E. Platt, of Arbor Hill: Nine varieties of cherries, viz: May Dukes, Black Hearts, Black Tartarians, Grafton or Yellow Spanish, Black Bigarreau, and four varieties of seedlings not fully ripe, but giving promise of superior qualities.

By Jacob Teller, of Rose Hill, Greenbush: Napoleon Bigarreau, and Early White Heart cherries.

By Dr. Alden March, Albany: Three varieties of cherries, viz: May Dukes, Black Tartarians, and Black Hearts.

PREMIUMS.

For the best and most extensive collection, to Dr. Herman Wendell,..... \$3 00
For the second best do do to E. E. Platt, 2 00
For the best three varieties—Black Tartarians, Eltons and Belle de Choisy—to Stephen E. Warren, of Mount Ida,..... 2 00

For the best one variety—Black Tartarian—to E. E. Platt.....	1 00
And the following discretionary premiums:—	
For very fine Red Antwerp Raspberries, to Joel Rathbone.....	1 00
For large and beautiful Gooseberries, to J. McD. McIntyre.....	1 00
For Green Citron Musk Melons, to V. P. Douw.....	1 00
For the Committee,	

JOHN WILSON, M. D., Chairman pro tem.

FLORAL DESIGNS, &c.

The Committee reports that there were exhibited

By Joel Rathbone, a beautiful round bouquet for centre table vase, arranged in good taste. A very fine flat hand bouquet, beautifully arranged.

By James Wilson, one large round bouquet, for centre table vase, arranged with skill and good taste. One large flat bouquet for mantle vase, beautifully arranged. One exquisitely arranged round bouquet for the hand, to which the Committee awarded the premium of one dollar. One flat bouquet for the hand, arranged with equal taste to the above, to which the premium of one dollar is awarded. Four vase bouquets, arranged with taste and skill.

By Mrs. W. A. McCulloch, a flat bouquet for the hand, beautifully arranged and composed of choice flowers.

By Wm. Newcomb, of Pittstown, one large, flat bouquet for centre table vase, arranged with good taste, to which the premium of two dollars is awarded.

By Dr. Herman Wendell, a beautifully arranged, large, round bouquet for centre table vase, to which the premium of two dollars was awarded. A basket bouquet with handle, arranged with exquisite taste and skill, to which the premium of one dollar was awarded.

By Mrs. Kirtland, a basket bouquet, arranged with taste and filled with cherries of various kinds.

By V. P. Douw, of Wolvenhook, a very beautiful, round bouquet for centre table vase, arranged with good taste; a flat bouquet for the hand, beautifully arranged, and a basket bouquet, arranged with good taste.

By B. Strong, Jun., a beautifully arranged, round bouquet.

For the Committee,

STEPHEN E. WARREN, Ch'n.

GREEN-HOUSE PLANTS AND FLOWERS.

The committee reports that there were exhibited.

By Joel Rathbone, Esq., of Kenwood, plants in pots, Gardenia Florida, Euphorbia splendens, Opuntia Rosea, Russelia Juncea, Cycus Revoluta, and Hydrangea Hortensis; and cut flowers in large numbers, as Roses—Queen of the Prairies, Baltimore Belle, Prince Albert, Duchesse of Sutherland, George the 4th, &c. &c.; Delphinium Siberianum; Pelargoniums—Bridgroom, Queen Dowager, Alarm, Victoria and Lady Washington, fifteen varieties of Verbenas, Pansies in several varieties; Fuchsias Globosa and Splendens; Passiflora, Alata and Racemosa, &c. &c.

By Dr. Herman Wendell, new running rose Anna Marie, Luxembourg Moss roses and buds, twenty-one varieties of Pinks; Phloxes—Grato-Picta, Van Houtti, Superbissima, Goethe, Eclipse and Anais Chauviere, &c., &c.

By E. E. Platt, Double Dianthus Barbatius, and Old Cabbage or Provins roses.

By Mrs. Jasper S. Keeler, a well grown Agapanthus Umbellatus plant, having two stems laden with its beautiful blue flowers, also a number of choice Roses, White Lilies, &c., &c.

By Wm Newcomb, of Pittstown, twenty-six varieties of Roses, eight varieties of Dahlias, upwards of eighty varieties of annual, biennial and perennial flowers; several varieties of Pansies, &c., &c.

By James Wilson, seven varieties of Fuchsias growing in pots, well cultivated and laden with flowers; two Gardenia Floridas, Burchellia Capensis, Heliotropium Voltmerianum, Double Oleander, and Tom Thumb Pelargonium, all growing in pots and covered with flowers; fifty varieties of Roses, thirteen varieties of Dahlias, several varieties of the newest and best Verbenas, twenty-five beautiful Picotee Pinks, and twenty-five of the best and most beautiful Carnations, together with a fine display of other annual and perennial flowers.

By Mrs. S. Wait, a large collection of rare and beautiful flowers, several varieties of Verbenas and Pinks, Dianthus Barbatius, &c. &c.

By V. P. Douw, of Wolvenhook, Roses—Pallida, Madam Hardy, Prince Albert, Provins, Queen of the Prairies and

Red Moss, Caprifolium Flexuosum, Clematis Erecta, Aconitum Napelles, Delphinium Elatum, two varieties of Spiraea, Delphinium Siberianum, Dianthus Barbatius, several varieties of Pansies, &c., &c.

By E. C. McIntosh, several varieties of Dahlias, and several other varieties of flowers.

PREMIUMS.

For the six best varieties of Fuchsias in pots, to Jas. Wilson, for Lady Mithank, Clauviere, Comet, Exoniensis, Caroline and Acanth.....	\$2 00
For the best six plants of different varieties in pots, to James Wilson.....	3 00
For the best six varieties of Carnations to Jas. Wilson, for Achilles, Euterpe, Cynthia, Brunette, Lady Peel, and Mirabelle.....	2 00
For the best six varieties of Picotees to Jas. Wilson, for Scarlet Flake, Flora, Eloise, Climax, Cleopatra and Incarnata.....	2 00
For the best display of annual and perennial flowers to Wm. Newcomb.....	2 00
And a discretionary premium of \$2 to Joel Rathbone, Esq., for a fine display of growing plants and cut flowers.	
Also, a discretionary premium of \$1 to V. P. Douw, Esq., for a beautiful display of cut roses and other flowers	
WM. NEWCOMB, Ch'n.	

VEGETABLES.

The committee respectfully report that the contributions to the exhibition were as follows:

W. Newcomb, of Pittstown—Hoo-Sung, and very large and fine Silverskin Onions. Mr. Newcomb informs the committee that he thinks the Hoo-Sung an excellent vegetable, and when cooked in the same manner as asparagus, is more palatable.

V. P. Douw, of Wolvenhook—Early Mohawk Beans, fine early York Cabbages, and fine Blood Beets.

N. B. Warren, of Mount Ida, Troy—Marrowfat Peas, very fine; and Mountain June Potatoes, more fully grown than at the last exhibition. These potatoes were remarkable for size and healthiness of appearance.

Joel Rathbone, of Kenwood—Hoo-Sung and early Mohawk Beans.

PREMIUMS.

Awards having been made at the last exhibition, to most of the varieties of vegetables now offered, only the following premiums are allowed by the rules:—

On Onions—W. Newcomb, of Pittstown.....	\$1 00
" Marrowfat Peas—N. B. Warren, of Troy,...	1 00
" Beans—Early Mohawk—V. P. Douw.....	1 00

R. F. JOHNSTONE, Chairman.

The third exhibition of the Society, held on the 25th July, at the Agricultural Hall, was a most successful one, especially in fruits and vegetables. Owing to the extreme drouth, the show of flowers was not so extensive as at some former exhibitions. The exhibition of Gooseberries was more extensive in variety, and the fruit finer in quality, than any we have seen. And of Cherries, Currants and Raspberries, it was also unusually fine. The Society have reason to be encouraged from the spirit which is displayed in every department.

B. P. JOHNSON, Sec'y.

REPORTS OF COMMITTEES.

FRUIT

The committee on Fruit reported that there was exhibited by Henry Vail, Esq., of Ida Farm, Troy, six varieties of Cherries, viz: Black Heart, Black Tartarian, Black Eagle, Late Duke, Early White Heart, and a very beautiful, bright red colored Seedling, raised by Mr. Vail, of the Morello family, and resembling the Carnation; seventeen varieties of Gooseberries, of very large size and skillfully grown, being entirely free from rust; five varieties of Currants, and five varieties of Raspberries.

By B. B. Kirtland, Cantonment Farm, Greenbush, four varieties of Cherries, including a seedling resembling Transparent Guigne; three varieties of Gooseberries, and Madeleine or Citron des Carmes Pears, fully ripe.

By Dr. Herman Wendell: Nine varieties of cherries; seven varieties of currants, and five varieties of Gooseberries.

By E. N. Prentice, Mount Hope: Six varieties of cherries; three varieties of currants, and ripe Yellow Harvest Apples.

By E. E. Platt: fourteen varieties of cherries, including eleven seedlings, some of which were of very fine character,

much resembling their parent, the White Bigarreau or Ox Heart, and one of which, too unripe to enable the committee to judge of its character, promising to be of large size and fine appearance.

By Ed Young : Ripe and beautiful Peach Apricots.

By A. J. Parker : Sweet Mountmorenci cherries, and four varieties of Gooseberries.

By Mrs. Weed, Washington street : very fine Gooseberries.

By Wm Newcomb, Pittstown : White Smith gooseberries and English and Missouri Black currants.

By James Wilson, of Albany : Forty-one varieties of gooseberries, and Late Duke and Imperial Morello cherries.

By V. P. Douw, Wolvenhook, Greenbush, Red and White Antwerp Raspberries; Stoddart's Red Alpine Strawberries; five varieties of Gooseberries, and Black Morello Cherries.

By John S. Gould, Red Alpine Strawberries, a d Green Amber Gooseberries.

By Warner Daniels : Woodward's White Smith Gooseberries, and a seedling variety resembling it.

PREMIUMS.

The following premiums were awarded on Cherries:—
For the best and most extensive collection, to Dr. Herman Wendell,..... \$3 00
For the second best and most extensive collection, divided between Henry Vail, Esq., of Mt. Ida, Troy, and E. P. Prentice, Esq., of Mount Hope, Bethlehem, each..... 1 00
For the best three varieties, to Dr. Herman Wendell, for Wendell's Mottled Bigarreau, Graff's or Yellow Spanish, and Elkhorn or Tradesants Black,..... 2 00
For the best one variety, to Dr. Herman Wendell for Wendell's Mottled Bigarreau,..... 1 00
On Gooseberries—For the most extensive collection, to James Wilson, of Albany,..... 3 00
For the best collection, to Henry Vail, of Ida Farm, Troy,..... 3 00
For the finest flavored variety, to Henry Vail, for Compton's Sheba Queen,..... 2 00
For the second best, to Henry Vail, for Lady of the Manor,..... 1 00
On Currants—For the best and most extensive collection, to James Wilson,..... 3 00
For the best and finest flavored variety, to James Wilson, for Knight's Red,..... 2 00
For the second best, with same requirements, to Henry Vail, for White Dutch,..... 1 00
On Raspberries.—For the best and most extensive collection, to Henry Vail,..... 3 00
For the best and finest flavored variety, to Henry Vail, for Fastolf,..... 2 00
For the second best, with same requirements, to Henry Vail, for Franconia,..... 1 00
And special premiums of one dollar each, to E. P. Prentice, for Yellow Harvest Apples; to B. B. Kirtland, for Citron des Carmes Pears, and to Eli Young, for Peach Apricots.

SANFORD HOWARD, Ch'n. Com.

GREEN-HOUSE PLANTS—FLORAL DESIGNS.

The committee report that there was exhibited by James Wilson, the following varieties of plants growing in pots, to which the premium of three dollars was awarded, viz : four Fuchsias, Achimenes Picta, Gloxinia speciosa and Torrenia Asiatica; also, by the same, a beautifully arranged round bouquet for centre table vase, and to which the premium of two dollars was awarded; a flat bouquet for mantle vase, arranged with good taste and composed of choice flowers; an exquisitely arranged flat bouquet for the hand, to which the premium of one dollar was awarded; and a round bouquet for the hand, arranged with equal taste, to which the premium of one dollar was awarded.

By Joel Rathbone, a round bouquet for centre table vase, arranged with taste and skill.

By Dr. Herman Wendell, two basket bouquets with handles, one round, and one oval, and arranged with exquisite taste; the premium of one dollar was awarded to the oval one.

By Wm. Newcomb, of Pittstown, a flat bouquet for mantle vase, arranged with great good taste, to which the premium of two dollars was awarded.

By John S. Gould, a small basket bouquet, most tastefully arranged, and a large basket bouquet for centre table, without handle, arranged with skill and taste.

WM. NEWCOMB, Ch'n.

FLOWERS.

The committee on Flowers report that there was exhibited by V. P. Douw, of Wolvenhook, a large collection of annual and perennial flowers, numbering over forty varieties; fifteen varieties of roses, and fifteen varieties of Pelargoniums.

By James Wilson, a distinct and very beautiful seedling Phlox, with pink ground and white stripe through the centre of the petal; six varieties of Roses, and 22 varieties of Dahlias.

By Joel Rathbone, a collection of over fifty varieties of annual and perennial flowers; sixteen varieties of Pelargoniums; sixteen varieties of Hybrid perpetual and Bourbon Roses; seventeen varieties of Verbenas, and a very fine collection of choice Picotees and Carnations.

By Wm. Newcomb, of Pittstown, a collection of over eighty varieties of annual and perennial flowers, and forty varieties of Dahlias.

PREMIUMS

The premiums were awarded as follows:

Dahlias.—For the best exhibition, to Wm. Newcomb, \$3 00
For the best twelve varieties, to Wm. Newcomb, for Lady St. Maur, Constantia, Fulwood Scarlet, Golden Souvenir, Bragg's Antagonist, Robert Burns, Col. Baker, Ansell's Unique, Baron, Cleopatra, Mrs. Rushton, and La Tour D'Auvergne,..... 2 00
For the best six varieties, to James Wilson for Model, Melanie Adam, Cheltenham Queen, Consuelita, Minerva, and Standard of Perfection,..... 1 00
For the best display of annual and perennial flowers, to Wm. Newcomb,..... 2 00
SANFORD HOWARD, Ch'n.

VEGETABLES

The committee on vegetables report that the exhibition of vegetables was very choice; the exhibitors having brought forward several new and delicious looking varieties.

John S. Gould, of Albany, exhibited five specimens of Kohl Rabi, Long Cucumbers, Savoy Cabbage, and Early June Potatoes. The potatoes were very large.

E. C. McIntosh, two beautiful Egg plants, and some fine Kenyon Cucumbers. The Egg plants were much admired, and very large for thus early in the season.

B. B. Kirtland, Early Canada White Corn.

Dr. Herman Wendell, Swiss Chard or Silver Leafed Beet. The tops or stems of the leaf of this vegetable are cooked and eaten as asparagus, and as far as appearance goes, they are the most luscious looking vegetable we have seen this season, their fresh, dewy and crisp, creamy stems, fairly made the mouths of some of the committee water, in spite of the epidemic; also, California acorn squashes. The seeds from which these squashes were produced, were forwarded to the Secretary of the Society from the patent office last spring, who distributed them. They appear very fine, and are nearly a month earlier than the common summer squash.

E. P. Prentice, Mount Hope, magnificent Ox Heart cabbages, Golden Crookneck squashes, Scollop squashes, very fine, and four varieties of Tomatoes.

V. P. Douw, of Wolvenhook, Early Sweet Corn, Tomatoes and Early White Corn.

Joel Rathbone, of Kenwood, Purple Cape Broccoli, very fine; White Spine Cucumbers, Large Red Tomatoes, and Summer squashes.

PREMIUMS.

The premiums were awarded as follows:

On Corn—V. P. Douw, Wolvenhook,..... \$1 00
" Cucumbers—open culture—Joel Rathbone, of Kenwood,..... 1 00
" Egg-plants—E. C. McIntosh, of Albany,..... 2 00
" Squashes, Dr. Herman Wendell,..... 1 00
" Tomatoes, Joel Rathbone, Kenwood,..... 2 00

The committee also recommend a special premium, of \$1 00 to Dr. Wendell for the Swiss Chard, and of \$1 00 to E. P. Prentice, for his four fine varieties of Tomatoes being the greatest number exhibited by one person.

The committee are not certain that field crops come within their cognizance, but they cannot allow the very magnificent specimens of Flax, exhibited by William Newcomb, Esq., of Pittstown, to pass without mention. They were brought here by him as specimens from forty acres, and when we state that part of it measured between four to five feet high, and that the average was between three and four, those who are in the habit of growing this crop, will know that Mr. Newcomb has been very successful. We believe that a statement of the crop, and of his manner of growing it, will be submitted to the State Agricultural Society.

ROBERT F. JOHNSTONE, Ch'n.

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WHEN a farmer, who visits the metropolis once a year, stares into the shop windows in Broadway, and stops now and then with an indefinite curiosity at the corners of the streets, the citizens smile, with the satisfaction of superior knowledge, at the awkward airs of the countryman in town.

But how shall we describe the conduct of the true *cockneys* in the country? How shall we find words to express our horror and pity at the cockneyisms with which they deform the landscape? How shall we paint, without the aid of HOGARTH and CRUIKSHANKS, the ridiculous insults which they often try to put upon nature and truth in their cottages and country seats?

The countryman in town is at least modest. He has, perhaps, a mysterious though mistaken respect for men who live in such prodigiously fine houses, who drive in coaches with liveried servants, and pay thousands for the transfer of little scraps of paper, which they call stocks.

But the true cit is brazen and impertinent in the country. Conscious that his clothes are designed, his hat fabricated, his tilbury built, by the only *artists* of their several professions on this side of the Atlantic, he pities and despises all who do not bear the outward stamp of the same

coinage. He comes in the country to rusticate, (that is, to recruit his purse and his digestion,) very much as he turns his horse out to grass; as a means of gaining strength sufficient to go back again to the only arena in which it is worth while to exhibit his powers. He wonders how people can live in the country from choice, and asks a solemn question, now and then, about passing the winter there, as he would about a passage through Behring's Straits, or a pic-nic on the borders of the Dead Sea.

But this is all very harmless. On their own ground, country folks have the advantage of the cockneys. The scale is turned then; and knowing perfectly well how to mow, cradle, build stone walls and drive oxen,—undeniably useful and substantial kinds of knowledge,—they are scarcely less amused at the fine airs and droll ignorances of the cockney in the country, who does not know a bull-rush from a butternut, than the citizens are in town at their ignorance of an air of the new opera, or the step of the last redowa.

But if the cockney visitor is harmless, the cockney resident is not. When the downright citizen retires to the country,—not because he has any taste for it, but be-

cause it is the fashion to have a country house,—he often becomes, perhaps for the first time in his life, a dangerous member of society. There is always a certain influence about the mere possessor of wealth, that dazzles us, and makes us see things in a false light; and the cockney has wealth. As he builds a house which costs five times as much as that of any of his country neighbors, some of them, who take it for granted that wealth and taste go together, fancy the cockney house puts their simple, modest cottages to the blush. Hence, they directly go to imitating it in their moderate way; and so, a quiet country neighborhood is as certainly tainted with the malaria of cockneyism, as it would be by a ship-fever, or the air of the Pontine marshes.

There are, to be sure, some cockneyisms so gross that, like an overdose of poison, they have a salutary effect, by rousing nature to make a struggle and throw it off. We must be allowed to quote a couple of instances of this kind, (mentioning no names,) which have come under our observation lately.

A few miles from Brooklyn, N. Y., on a commanding point of land, is to be seen the country house of a cockney millionaire. It is built of red brick, at a cost of some \$12,000. It stands bolt upright, *five stories high*, with windows in the front and rear, town house street door, steps and railing, and not a window on either of the two remaining sides. In fact, it is a precise copy of a first class house in Tenth-street,—*minus the rest of the row on each side of it!* Poor tenement! There was, as we gazed on it, not a tree growing near it, though a straight road, leading up to it, had been planted with a beggarly assortment of some street trees. It looked, in its utter want of association with all about it,

as if it had been brought out there by some designing city friend, who had forgotten to “introduce it” to the rustic neighborhood.

On a noble promontory of land, in a part of the Hudson which shall be nameless, is a villa, built of wood, in the style of the Parthenon. The situation is so simple and grand,—a broad plain, bordered by a natural belt of fine trees,—that any one, with half a grain of taste, would have felt, at a glance, that the key to all the “improvements” to be made there, must be found in merely following nature’s hint, and by a liberal grouping of trees, to have converted the whole into a fine park. The thing were as easily done, if rightly conceived, as for the owner to have written his name at the bottom of the check to pay for it.

Well, how do our readers think this cockney has improved his country residence? How has he elevated and heightened the beauty of this noble plain, skirted with stately trees, and ornamented with his classical copy of the Parthenon?

By running a post and chain fence, in a circle, round the house, and stretching a grape arbor up and down the plain on both sides of it!

After that, only one thing remained; and it was done. A silver plate on the front door bears, neatly engraved, the name of ———, Esq., the proprietor!

Now, if any of our readers will give us certified documents, to prove that any countryman was ever so foolish as to build a house in town, for the purpose of threshing his grain in the front parlor, and shelling his corn in the library, we will confess that cockneys have the best of it.

But, as we have already remarked, such gross examples as these are not those which are really dangerous in the country.

The cockneyisms which are fatal to the

peace of mind, and more especially to the right feeling of persons of good sense and propriety in the country, are those which have perhaps a real meaning and value in town; which are associated with excellent houses and people there; and which are only absurd and foolish when transplanted, without the least reflection or adaptation, into the wholly different and distinct condition of things in country life.

It would be too long and troublesome a task to give a catalogue of these sins against good sense and good taste, which we every day see perpetrated by people who come from town, and who, we are bound to say, are far from always being cockneys; but who, nevertheless, unthinkingly perpetrate these ever to be condemned cockneyisms. Among them, we may enumerate, as illustrations,—building large houses, only to shut up the best rooms and live in the basement; placing the first story so high as to demand a long flight of steps to get into the front door; placing the dining-room below stairs, when there is abundant space on the first floor; using the iron railings of street doors in town to porches and piazzas in the country; arranging suits of parlors with folding doors, precisely like a town house, where other and far more convenient arrangements could be made; introducing plate glass windows, and ornate stucco cornices in cottages of moderate size and cost; building large parlors for display, and small bed-rooms for daily use; placing the house so near the street (with acres of land in the rear) as to destroy all seclusion, and secure all possible dust; and all the hundred like expedients, for producing the utmost *effect* in a small space in town, which are wholly unnecessary and uncalled for in the country.

We remember few things more unpleasant than to enter a cockney house in the

country. As the highest ideal of beauty in the mind of its owner is to re-produce, as nearly as possible, a fac-simile of a certain kind of town house, one is distressed with the entire want of fitness and appropriateness in everything it contains. The furniture is all made for display, not for use; and between a profusion of gilt ornaments, embroidered white satin chairs, and other like finery, one feels that one has no rest for the sole of his foot.

We do not mean, by these remarks, to have it understood that we do not admire really beautiful, rich and tasteful furniture, or ornaments and decorations belonging to the interior and exterior of houses in the country. But we only admire them when they are introduced in the right manner and the right place. In a country house of large size—a mansion of the first class—where there are rooms in abundance for all purposes, and where a feeling of comfort, luxury, and wealth, reigns throughout, there is no reason why the most beautiful and highly finished decorations should not be seen in its drawing-room or saloon,—always supposing them to be tasteful and appropriate; though we confess our feeling is, that a certain *soberness* should distinguish the richness of the finest mansion in the country from that in town. Still, in a villa or mansion, where all the details are carefully elaborated, where there is no neglect of essentials in order to give effect to what first meets the eye, where everything is substantial and genuine, and not trick and tinsel,—there one expects to see more or less of the luxury of art in its best apartments.

But all this pleasure vanishes in the tawdry and tinsel *imitation* of costly and expensive furniture, to be found in cockney country houses. Instead of a befitting harmony through the whole house, one sees many minor comforts visibly sacrificed to

produce a little extra show in the parlor; mock "fashionable" furniture, which, instead of being really fine, has only the look of finery, usurps in the principal room the place of the becoming, unpretending and modest fittings that belong there; and one is constantly struck with the *effort* which the cottage is continually making to look like the town house, rather than to wear its own more appropriate and becoming modesty of expression.*

The pith of all that should be said on this subject, lies in a few words, viz., that *true taste lies in the union of the beautiful and the significant*. Hence, as a house in the country is quite distinct in character and uses, in many respects, from a house in town, it should always be built and furnished upon a widely different principle. It is far better, in a country house, to have an abundance of space, as many rooms as possible on a floor, the utmost convenience of arrangement, and a thorough realization of comfort throughout, than a couple of very fine apartments, loaded with showy furniture, "in the latest style," at the expense of the useful and convenient everywhere else.

And we may add to this, that the superior charm of significance or appropriateness is felt instantly by every one, when it is attained,—though *display* only imposes on vulgar minds. We have seen a cottage where the finest furniture was of oak in simple forms, where everything like display was unknown, where everything costly was eschewed, but where you felt, at a glance, that there was a prevailing taste and fitness, that gave a meaning to all, and brought all into harmony; the furniture

with the house, the house with the grounds, and all with the life of its inmates. This cottage, we need scarcely say, struck all who entered it with a pleasure more real and enduring than that of any costly mansion in the land. The pleasure arose from the feeling that all was significant; that the cottage, its arrangement, its furniture, and its surroundings, were all in keeping with the country, with each other and with their uses; and that no cockneyisms, no imitations of city splendor, had violated the simplicity and modesty of the country.

There must with us be progress in all things; and an American cannot but be proud of the progress of taste in this country. But as a great portion of the improvements, newly made in the country, are made by citizens, and not unfrequently by citizens whose time has been so closely occupied with business, that they have had no opportunity to cultivate a taste for rural matters, it is not surprising that we should continually see transplanted, as unexceptionable things, the ideas in houses, furniture, and even in gardens, which have been familiar to them in cities.

As, however, it is an indisputable axiom, that there are laws of taste which belong to the country and country life, quite distinct from those which belong to town, the citizen always runs into cockneyisms when he neglects these laws. And what we would gladly insist upon, therefore, is that it is only what is appropriate and significant in the country, (or what is equally so in town and country,) that can be adopted, without insulting the natural grace and freedom of umbrageous trees and green lawns.

He who comes from a city, and wishes to build himself a country seat, would do well to *forget* all that he considers the

* We are glad to see evidences of a better taste, in the neat and pretty "cottage furniture," which is now made and sold by Hennessey, of Boston, and various other dealers in New-York and Philadelphia. One can, by their aid, now furnish a cottage without being obliged to buy chairs and tables suitable only for a town house or villa.

standard of excellence in houses and furniture in town, (and which are, perhaps, really excellent there,) and make a pilgrimage of inspection to the best country houses, villas and cottages, with their grounds, before he lays a stone in his foundation

walls, or marks a curve of his walks. If he does this, he will be certain to open his eyes to the fact, that, though there are good models in town, for town life, there are far better models in the country, for country life.

ON ROOT-GRAFTING AND GRAFTING GENERALLY.

BY H. E. HOOKER, ROCHESTER, N. Y.

MR. DOWNING—As there seems to be some difference of opinion, among your correspondents, in regard to the propriety of root-grafting fruit trees, especially apples, and as the current of opinion, so far expressed, has been in favor of budded, or seedling (that is, not worked) trees, a few words in extenuation of the practice will, I think, be appropriate from one who is engaged in this business, which seems so obnoxious to some.

One of the first questions which meets us, is, whether any tree or plant, except a seedling, is admissible in the orchard, garden or fruit yard?

Now it seems to me that no sensible man will deny that one of the greatest benefits which are derived from the gardener's skill, is through multiplying individual plants, as varieties of the same class or species, by means of layers, cuttings, eyes, sprouts, and grafts or buds.

The practice of all except the most primitive cultivators, shows that this is undeniable; for no man objects to a plant or tree, of a kind which he wishes to obtain, because it is not raised from seed; and he has good reason, when he sees it perfect in all its parts, to expect it to be as long lived, and as useful, as the original parent which was derived from seed. No method of propagation can be injurious to the

health or longevity of a tree, which produces the plant perfect in all its parts,—a fact which is abundantly proved by time and trial, as in the case of grapes, currants, willows, poplars, &c. &c. This fact also shows, that in regard to many plants and trees, there is no particular spot in the tree where *vitality* is stored up, unless it be in the bud itself. This is still further evident, in cases where we see fine perfect plants raised from bits of roots, as in raspberries; and even apple and pear trees may be produced in the same way.

The next question is as to the propriety of transferring one variety of a species to another stock of the same species, but of a different variety. This opens a wide field, and one which I confess I am quite unable to compass, and where abundant room remains for interesting experiment and investigation; but enough has been done to prove that varieties may be grafted or budded upon other varieties of the same or even a different species, without serious injury. Still, during these experiments, differences do appear, as every cultivator has observed; and even in the use of stocks of the same species, we find some individuals are improved, a greater number are injured, but in most cases the difference is scarcely perceptible between the grafted or budded tree and the original plant. It

is plain, however, that a stock which most nearly approaches the kind intended to be worked, in constitutional vigor and other characteristics, offers the best promise of ultimate success.

The only question, then, is what is the most proper mode of propagation?—and this I believe to vary with the subjects of the operation. In propagating the cherry, for instance, the customary way with good nurserymen, is to procure pits from thrifty Mazzard trees. These produce seedlings so uniform in their growth, and so well adapted to the best cultivated sorts, that very little difference will appear in trees or fruit, when budded as they commonly are, a few inches above the ground; but even these, I have raised equally fine by grafting in the root. Apples, however, are commonly raised from seed obtained at the cider presses. The fruit used there is generally small and crabbed. The stocks produced, consequently partake of the same nature; and when worked with some of the best free growing sorts, the stock and scion are evidently somewhat dissimilar in character, and not as likely to produce good trees and fine fruit, as if they were both alike in habit of growth and structure. In root-grafting, this difficulty is obviated; and therefore it must be the best method of propagation, if it has no other serious objections; and I know of none, where the operation is well performed.

My experience is, that seedling stocks of two, or at most three years' growth in the seed bed, should be used; they will be then from one-fourth to one-half an inch in diameter, and have from eight to twelve inches of good straight firm roots. This latter only should be used. It will make two good cuts, say four inches long. These pieces of root whip-grafted, (and the joint covered with wax or waxed cloth,) with

scions of the same length, making eight inches, will penetrate the full depth of any ordinary soil, when only half an inch of the scion is left above the surface. Let these be put out upon good ground, not previously cropped with trees, at the proper time in the spring; and in three or four years, with good cultivation, they will have become fit for setting in orchards, and, upon examination, will be found almost without exception to have thrown out roots from the scion,—thus forming a tree upon its own roots; in other words, as perfect a tree as the original parent.

If we examine old trees, we find that the strongest roots are those which spring from the trunk, near the surface of the earth; these having a more horizontal direction, and continuing to find nourishment as they progress in the surface earth. Of course, then, the little that remains of a different, and perhaps dissimilar stock, in a root-grafted tree, exerts but a comparatively small influence upon its growth or fruit.

These views are corroborated by the testimony which orchards themselves bear, on every side of me. Are the apple trees less luxuriant and fruitful? Or is the fruit less beautiful, and highly flavored? Or do the trees give stronger evidence of premature decay in western New-York than in other sections of our country? I think not. The fruit speaks for itself in the market; and he who doubts the health of our orchards, may come and see for himself. Yet nearly all our fine trees have been root-grafted, and the practice still continues with the decided approval of almost all cultivators of fruit.

I have conversed with farmers who had portions of their orchard set with root-grafted, and other parts with natural fruit, or seedling trees, and have examined the trees, and found the difference in favor of

the root-grafted trees. They were as long lived, as healthy, as fruitful, and almost without exception *larger*, than the natural fruit trees of the same age.

There may be some slight objections to this method of cultivating trees, but they are not those which have been urged by your correspondents; and even these apply mainly to the abuse of the system. And until more satisfactory arguments than have yet been published, or than I am acquainted with, are produced, I must approve the judicious use of root-grafting.

Yours truly, H. E. HOOKER.

Com. Nursery, Rochester, N. Y., Aug. 7, 1849.

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REMARKS.—Many intelligent persons puzzle themselves and others by not rightly understanding the difference between theory and practice; and many such persons are the correspondents to whom Mr. HOOKER alludes.

Theoretically, a man is never perfect; i. e., in sound and healthy physical condition, except in a savage state, where hunting and fishing, and the full use of his bodily powers makes him nearly so, as an animal; and, theoretically, a tree is never perfect except when it is raised from seed, on the spot where it is finally to grow, because every mutilation of root or branch somewhat shortens its life.

Practically, however, man is immensely improved, intellectually and morally, by passing out of the savage into the civilized state; and plants are no less improved by a like progress, brought about by cultivation. It is perfectly certain that both men and plants lose something of the original force of their vital powers by civilization and cultivation; but it is also perfectly certain that no sensible man will prefer to return to the savage state, any more than he would prefer the indulgence of his ani-

mal passions to his highest intellectual and moral enjoyments.

The same parallel holds good in the vegetable kingdom, viewed in a horticultural point of view. There is no question whatever that the most perfect wild trees, as well as the most perfect *wild men*, are produced directly from nature; but as we are almost as certain that we cannot produce the finest cultivated fruits from seed, as we are that we cannot look for the finest intellectual and moral natures among savage tribes, both civilization and cultivation are absolutely and equally necessary.

It is useless therefore to say, either that we shall not have schools, or that we shall not have grafting. The only point worth caring for, is that both means of improvement are rendered as perfect as possible; for the end of both is not merely, as many teachers and cultivators seem to suppose, to obtain *good fruits*, but to obtain them from a healthy organization.

Instead, therefore, of wasting time in talking about abandoning all kinds of grafting, and raising all fruit trees from seed,—which is, indeed, the merest moonshine,—it is the part of wisdom for all good cultivators to set about ascertaining what are the best modes of grafting and budding, what the best stocks, and what the most favorable conditions for maintaining the vital powers of the trees thus propagated.

Four-fifths of all the imprecations that have been bestowed upon grafting and budding, should have more properly been heaped upon those who practice these most beautiful and useful arts badly, by using diseased stocks, and taking grafts from stunted and decaying trees; or from branches of those trees, the vital powers of which had been enfeebled and worn out by over-

bearing. Until nurserymen will fully understand, that all grafts from any tree are not alike good, and, above all, that grafts from diseased trees are worse than worthless, it is plain enough that almost as much evil as good will result from grafting; but our nurserymen are, we trust, fast throwing aside all such ignorance, both of their business and their interest, and better cultivation must necessarily result from better information.

The best proof of this progress is the receipt of such articles as Mr. HOOKER'S Root-grafting, (which, as we know, is practiced to an immense extent every year in the nurseries of western New-York, where a single nurseryman works more than 100,000 apple trees alone in a season, in this way,) is, as he rightly esteems it, one of the most perfect modes of effecting a union between the scion and the stock yet invented. ED.

HORTICULTURAL SUGGESTIONS AND MEMORANDA.

BY PROFESSOR TURNER, ILLINOIS COLLEGE.

A. J. DOWNING, Esq.—*Dear Sir:* After quite too long a delay, I proceed to redeem my promise to report progress for the season. My excuse for this delay may be found in a few words,—late spring, deep mud, wet weather, sick hands, and last, though not least, the twin brothers—California and cholera; the one a madness of the brain, the other of the bowels; and both epidemic, if not contagious. But to drop excuses and proceed to business; and first:

CHERRIES.—I well knew that peeling a ring around a cherry tree endangered its life, as our respected Massachusetts friend suggests, in your last number. On the very tree to which I alluded in my last article, in the course of my experiments I peeled a ring of bark off from a limb, about one inch and one-half through, for about one and one-half inches in length. I left this limb standing in this condition through the winter, and in spring it was perfectly dead, while all the other limbs which were *wholly peeled* are still alive and in fine condition. In a word, I have never yet known a tree *wholly peeled*, in this climate, to be

injured, though I have known it to produce injury, in most cases when only partially done, from what I suppose to be a congestion of the sap about the part which is peeled,—producing too great an exposure at the point, both to fermentation from heat, and congelation or frost from cold. I have never, however, tried our friend NEWTON'S mode of slitting; but while I fear it would not be found sufficiently effective in our soil and climate, I think the suggestion eminently timely and judicious for the more northern latitudes.

PEARS.—The disease of the leaf of my pear trees, to which I alluded last season, still continues its ravages. I have noted it more carefully this year than ever before.

It begins to appear in the spring, even before the leaf opens. The folded leaflets, as soon as they first begin to peep into sight, are all covered with red carbuncles. As the leaf expands, these grow larger, and first change from their scarlet colour to pale yellow, skirted with a dingy pale green, and confined mostly to the central parts of the leaf. These blotches continued to manifest more and more of

the appearance of disease, until at last they turn perfectly dead and black, and fall out, leaving the rest of the leaf torn and jagged, but still apparently in tolerable health; though the whole foliage of the tree is not of so deep and pure a green as when no disease is present. The trees diseased last year are still more so this year, which leads me to fear for the results more than ever.

I have on my grounds, say some eight or ten hundred pear trees, old and young, and I cannot find a single tree not affected more or less, whether old or young. Those just beginning to fruit, appear the worst; while the seedlings of last season,—scions brought hundreds of miles, and even the sprouts that formed their buds in the bark, and came out below the scions after these were set,—all show the disease alike; the last perhaps more plainly than any of the branches from buds formed last fall.

I have noticed the beginning of the disease on some trees in other orchards this season, but think I am less likely to find it in all cases where the trees stand in a *hard blue grass sod*, which has not been touched for years, than in any other place. My own I shall in part put in that position, on trial, next season, since all other remedies which I have tried have done no good. For example, I have applied sulphate of iron to top and root, sulphur, iron-rust, scorix, bones, lime, ashes, dead carcasses, &c. &c., but to no effect. Plaster of Paris I have not been able to obtain. I have also tried both shade and sun, trimming and not trimming, seedling roots and no seedling roots; and if this is the disease which your correspondents term *the blight*, I confess I know nothing about it. It is different from that disease which I have understood to be called the blight, whether of *insect*, *sun*, or *frost*; and until it ap-

peared, I supposed I had practically triumphed over those other forms of blight which evidently affect the sap or bark, or both, and soon kill the tree.

But with this, all my former theories, remedies, means and appliances are wholly at fault. But from the facts stated above, I must think it a constitutional disease, if not contagious, independent of insects, or heat, or cold, or even of formed buds; but affecting in the same way buds formed in summer and those brought hundreds of miles, and grafted on the stock; and still, if it continues to progress, it must inevitably destroy every tree I have, unless a tree can live without leaves. Cannot some of your wiser men in the east, help us out of this dilemma?

BARK-BINDING.—I ought to have said, in connection with my remarks on cherry trees, that I have a box elder [Ash-leaved maple] tree in my yard, six inches through, against which a post was set, to prevent driving the carriage so as to strike it. As the tree grew and the post leaned, they came in contact at the top of the post, for about four inches, so as to impede the flow of the sap downwards, which was not observed until the sap above the place of contact stagnated, and either fermented in the sun or froze, or both, and, as a consequence, the bark died and came off from the tree above the lesion, for a space four inches wide, and running up the tree the whole length of the trunk—six feet,—exhibiting in the spring the same appearance as the cherry tree often does when the bark bursts, and as the pear tree does, in case of that disease I have supposed to be sun-blight. This was on the west side of the tree. Now here is one of our hardest forest trees, taken from the grove not 50 rods from where it now stands, ruined by two causes,—stopping the circulation be-

low, and exposing the trunk meantime to the hot sun, unprotected by shade; for if the trunk had been shaded, I must think the tree would not have been materially injured by the interruption of the circulation for so short a space below. The same principle applies in the partial peeling of hide-bound cherry trees, mentioned by Mr. NEWTON, in your last.

GOOSEBERRIES.—I have tried the plan of spading, manuring and applying *salted straw* or *hay* to my English gooseberries, which was suggested in the Horticulturist. Year before last I tried it for the first time. I had a fine crop that season, though never any before. The next year I omitted it; I had no gooseberries. This year I tried it again, and have had a fine crop.

QUINCES.—I salted my quince bushes, and manured them, this year, as you recommended. I have, for the first time, the pleasure of seeing fine fruit on them.

APRICOTS.—I threw an awning of coarse sheeting over my apricots early in spring before the buds started, and put straw about the roots, and saved my bloom from early frosts, and, of course, my fruit, for the first time. The awning was kept on until the fruit was fairly set, and frosts all over.

GRAPES.—Oh, FATHER BACCHUS, what shall I say of the poor grapes? They look dryer than SEMELE did after JUPITER appeared to her in his glory; and it would take more than one AUNT INO to nurse them into life again. Well, the rot, the rot; and then, there is two kinds of it,—the *brown wet rot*, and the *dry black rot*. Both come on most freely after sudden alternations of showers and hot suns; and both appear often on the same vine, and at the same time. The lowest branches usually rot first—the higher last, except that a side branch will sometimes escape,

where the main stem is thrown far above, so as to take most of the sap from it.

The *brown rot* begins with a small whitish spot on the skin of the grape, which frequently exudes a particle of sap from its centre, and immediately progresses toward the stone, so as to involve and destroy the whole pulp in a short time.

The *black rot* begins with a black or dark spot on the skin, often bordered with a circle of reddish brown, and is quite dry in its appearance, and seems for a long time to be confined to the skin of the grape,—stopping its growth, and slowly extending over the surface, without implicating, at first, either the flesh or the stone. This former disease resembles a rapid multiplication of the tissues of the human subject; the latter is like a fatal erysipelas; but both are equally incurable and deadly. *Are they from the same cause?* Both of these forms of rot attack our best native grapes; but the Isabella more than the Catawba in this region. The young vines, say until four or five years old, generally escape unharmed. But after that age, the rot generally grows worse and worse on all sorts of common prairie soil, until the vine becomes useless three years out of four; that is, in all seasons except those which are remarkably cool and dry at the time the fruit is hardening its seeds. For I have never known a single year in which the vine here, even under the most careless management, did not set with an abundant crop of fruit. But after it is half or two-thirds grown, or when the shell of the stone or seed begins to concrete, then comes the fatal rot, in one form or both; and if the weather is warm and wet, the bright and cheering hopes of the season are all blasted in a single week.

In one case, this season, I found a very small *white maggot*, wholly enclosed in

the inside of the shell of the stone, and beginning to feed evidently on the meat of the stone. This maggot was probably put into the grape while near the bloom, as the pea bug is put into the pea. It was in a grape affected with the brown or stone rot. But on further examination I found no more, and supposed this a solitary case, and not the cause of the rot; though I must confess it has aroused my suspicions, and I mention it to induce thorough microscopic examination.

That the rot is not occasioned by the puncture of any insect at the time it occurs, may be proved in this way: Puncture any number of grapes with a pin, or slit them with a knife, and it will not harm them. Indeed, those I punctured, in my experiments this year, escaped the rot until all the others on the same branch, and even on the same bunch, had perished. Such in general is the disease.

As to remedies, I have applied ashes, sulphur, lime, iron, bone-dust, sulphate of iron, oxide of iron, manure of all sorts, &c. &c., with various modes of training and pruning, to no effect.

Paving the ground with brick 18 inches below the surface, and filling in plentifully with brickbats, limestone, old bones, old shoes, chip manure, &c., is undoubtedly the best remedy that has yet been found; but it is quite expensive. Paving the surface, or coping it with boards, to shut off the superabundant rain has been recommended, but is not a specific. Suffering the vines to run at large in high trees is not always effectual, if ever, when the vine becomes old. Two facts have been reported to me during the past season worthy of record, or at least of notice.

One gentleman in Bond county, Illinois, allows his grape-vines to grow at random, in a *stiff blue grass sod*, on dry ground, and af-

firms that his grapes never rot; while all his neighbor's do rot, and still he has, he says, fine crops.

Another gentleman, in the heart of the city of St. Louis, has old Catawba and Isabella vines, trained on an arbor frame 16 feet high. He gives them a severe spring pruning, but *no summer pruning*, and gathers bushels every year without fail, while his neighbors, on a similar clay soil, a little out of the city, find that theirs all rot annually. I have thought that the immense amount of coal burned in the city, might affect his grapes. *Do grapes rot in Pittsburgh*, or anywhere near it? Does any one know? For if so, no smoke this side of the bottomless pit will save them.

However, I will try the high training, the coal smoke, and the blue grass sod, and the gypsum, too, if any gentleman will send me a barrel—(for the west abhors imported manure worse than nature does a vacuum,) each under distinct vines, next year, and report accordingly.

The philosophy of the blue grass sod, if true, is this: Absorption of wet and exclusion of heat, while the rich soil here still gives food enough to the vine. But I cannot believe in this treatment, though it has doubtless succeeded in the single case alluded to; and still, pears do far better in such a sward, in our soil, than anywhere else, beyond all doubt.

I have thus indicated all which I thought would tend to set your intelligent readers to thinking, experimenting, and writing on the subject,—hoping that something may come to the relief of the prairies; for it is now quite certain, I think, that neither the Ohio vine culture, with all its beauty and science, nor indeed any other known culture, can be of any practical use to us, simply on account of this fatal rot, while all else does admirably, even without care or

culture. And if this rot could be stopped or cured, we could grow grapes spontaneously, to any considerable extent; and I fancy I see your readers look very queer, in view of this said "IF,"—"If the sky falls," &c. But "try again," should be the motto of the pomologist.

BOOKS, SEEDS, CUTTINGS, &c.—Your package of books, seeds and cuttings, I considered invaluable in the west, though they were so long delayed by the state of the spring transportation that the latter all *perished*, though sent through by express.

The *Bassano beets* are splendid—so early and so sweet. Why, the good housewife can sow the seed when she feeds the chickens in the morning, and have fine greens and beets for dinner, if not the same day, at least in a very few days after.

The *Prince Albert peas* were ripe in five weeks from planting.

The *English Prize cucumbers* in our soil are long enough for fishpoles, fine growers, and of good flavor.

The *Ispahan melon* grew finely; but unfortunately, all the vines were destroyed by the maggot but one, and that was so injured that I fear I shall not save the seed.

The *Cedars of Lebanon* came up, and still grow, but I fear the climate will not suit them.

None of the *Arbor Vitæ* seed came, and few of the Junipers, as yet.

I planted all my vine seeds in a frame, as recommended in the Horticulturist, on blue grass sod, covered with cotton cloth, without oiling the latter; and I think it saved me one-half of my usual labor, with-

out the loss of a single vine from bugs through the season. This fact alone is worth more to me and my neighbors than the Horticulturist will cost for years.

My watermelons, planted where tomatoes had grown two seasons before, are of twice the size and vigor of growth of those planted in the same way, at the same time, and on the same soil, side by side. Is this a general result? I have just eaten specimens of pears, now fully ripe, (July 20,) presented me by ELIHU WOLCOTT, Esq., and described by him last year in the *Prairie Farmer*. The season is two or three weeks later than common; but they are now, indeed, a fine ripe pear, of good flavor for the season. More anon. Respectfully yours, J. B. TURNER.

Illinois College, July 31, 1849.

[Thanks, for the above interesting suggestions; we trust they will call out still more light on the very interesting topics touched upon.

The *rot* in Catawba and Isabella grapes, is very little known at the east; and indeed, until last season, never appeared to any serious extent. This year, we believe, there is much less of it than last season.

We hope careful investigation will lead to some accurate knowledge of the nature of the disease. From some experiments of our own, we are inclined to believe that covering the surface of the soil over the roots with two or three inches of straw or litter, to preserve the ground in an uniform condition of moisture and heat, and *never pruning the vines at all in summer*, (depending solely on severe autumn or winter pruning,) will greatly lessen, and, perhaps, entirely remove this disease. Ed.]

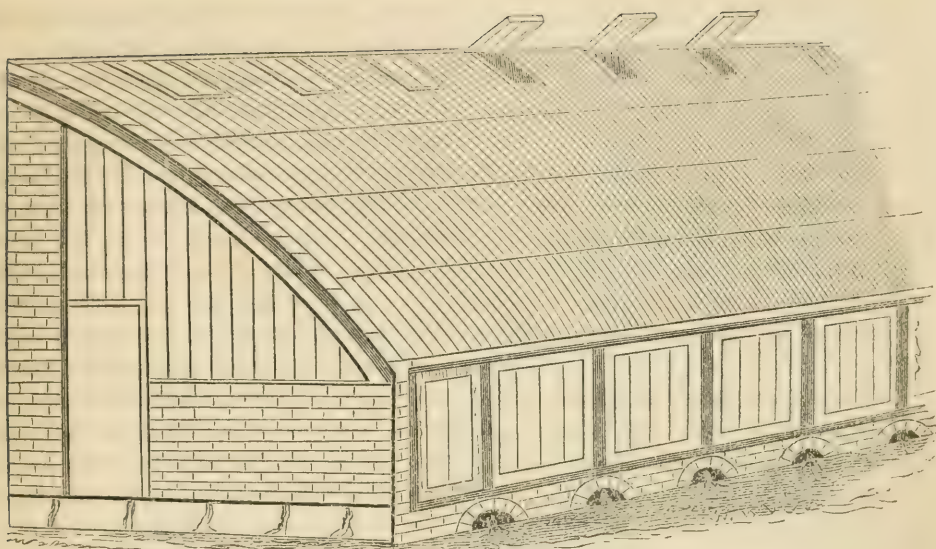


Fig. 73.—A Portion of Mr. Resorr's Vinery.

DESCRIPTION OF AN IRON ROOFED VINERY.

BY WM. RESORR, CINCINNATI, OHIO.

DEAR SIR—I enclose to you a rough sketch of a vinery which I had built last year, Fig. 73.

Being in the foundry business, I concluded to make the rafters of iron; and experiencing the difficulty of finding any plan or hint to *work* from, I concluded to send you a description, so that others, inclined to build a *first rate* house, would not commence wholly in the dark.

The length of this vinery is 89 feet; height of back wall, 13 feet; height of front, 4 feet 8 inches.

The roof is curvilinear, and the rafters 17 feet long,—curving one foot. On the back wall (brick) a plate, 4 to 6 inches thick, and wide enough, and bevelled out, so as to turn the water off; the gutter stick in front answering for the plate, and also

having the upright pieces framed into it, so that the sashes are hung on the under side. The form of the rafters is shown in Fig. 74. In Fig. 75, is shown a transverse

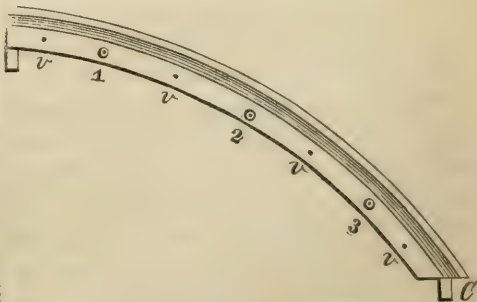


Fig. 74.—Form of Iron Rafter.

section of the rafter of the exact size—two inches deep. In this figure, A is the top of the rafter, B the gutter or groove for the

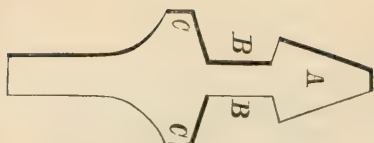


Fig. 75.—Cross Section of Rafter.

glass—one-half an inch wide, and C the ledge the glass rests on, which is a little wider, so that when the rafters are in their place, the glass can be dropped in from above, and will not drop through. There are small stops cast on the rafter inside the gutter, (Fig. 76, a,) for the glass to lodge against, and so placed that the glass must lap a certain distance, as the stops are put on for every light of glass,—and

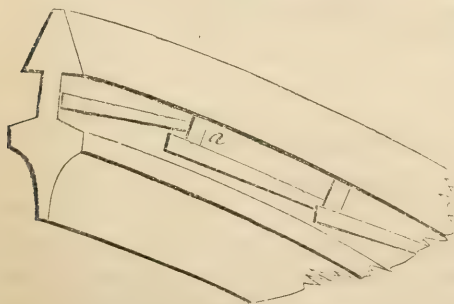


Fig. 76.—Portion of the Rafter Glazed.

saving the time and trouble of using tin hooks, as well as the appearance.

I also had my last rafters thickened at the places where the connecting rod goes through, by putting on the pattern a small piece around the hole; so that by countersinking the pattern, every hole in the rafters will be on a line when drilled for the rod. The pins at each end of the rafters marked C, (Fig. 74,) are to be perpendicular when the rafter is at the proper angle, and are $1\frac{1}{4}$ inches long, and $\frac{3}{4}$ of an inch in diameter. When the plates are in their places, and fastened, you begin at one end, and with a pair of compasses you mark the

proper width for the glass, and bore a hole, that the pins will fit, and drop the rafters in their place. After they are all put up, (being previously drilled at the shop, both for the rods to support them, and for the wires to support the vines,) I run a rod, a quarter of an inch in diameter, say 20 or 30 feet, through the holes, and also through the *inside* barge board, and screw a nut on the end. I put three rods (1, 2, 3, Fig. 74,) in the 14 feet rafter. I then took small pieces of wood half an inch square, and long enough to keep the rafters wide enough apart, and put one in each space, and under each rod the entire length,—having a nut one inch thick at the other end of the rod, (if your house is longer than the length mentioned 20 or 30 feet.) The object is to continue the rod in a straight line through; as when the pieces of wood are all in, you place the long nut far enough on the rod to admit the next length to screw into it, and then screw up the nut between the barge boards until everything is in its place, when it is ready for the glass. The better way of painting, is to *prime* the rafters before they are put up, and *second coat* before glazing. You leave the small sticks in their place until the putty is dry, and then take them out and finish painting. Instead of sliding sashes on top, I have near the top, in the back wall, a window $3\frac{1}{2}$ feet long by 2 feet high, every 4 feet, and closed with a tight shut, and hung at the bottom; so that having a cord fastened in the center of the shut, near the top, and drawn through a pulley, fastened below, leaving slack cord enough to open the window the desired width. You push them open with a stick from the inside. I have also, (as you will see by the sketch,) windows on top; but the others are all sufficient. To support the vines, you prepare three or four rafters

together, say at 4 feet apart, (the distance of the vines apart,) by drilling near the lower edge, and equi-distant between each rod, holes one-eighth of an inch, (marked V, on Fig. 74,) to pass the wires through; and when everything is ready, you get a piece of iron or "stirrup," I call it, that will hang between the two outside rafters, and as low down as required, with a hole in each end; you run a small rod through each rafter, and through the stirrup, and turn down the ends of the rod—it is secure. At the lower side are holes in the stirrup, under each rafter, so that you fasten the wire in the front of the house, and run it through each stirrup to the top. The whole is cheap and simple, and answers the purpose well. My new rafters weigh 24 lbs. to 14 feet in length. My old ones, in the vinery, 44 lbs. to 17 feet.

Those wishing to build a good substantial house can do it, and make the roof of iron, as cheaply as of wood; the other parts costing the same.

It is handsome in appearance, and lighter for everything inside. I have used in the vinery 7 by 9 double strength glass, and have sent to England for the new [sheet] glass, mentioned in the *Gardeners' Chronicle*, for my green-house.

You will see by the drawing that I have planted my vines under arches in the front wall. The opening extends two feet under ground, and the roots are intended to run in the border outside, but also extend inside if inclined.

I have, at present, a peach trellis running through the centre of the house, similar to those at Mr. CUSHING's, near Boston; and vines and a few trees on the back wall, in order to try how they will succeed. So far, they promise very well. Vine-

growers here, who are experienced cultivators, say they could not do better. And besides my trees, I shall probably have, this season, 100 bunches of grapes to begin with.

I forgot to mention, that in casting the rafters there will be a little difference in the length; but it can be relieved at the upper end, in the wood, so as to make them exactly uniform on the top. If any gentleman wishes any additional directions, I shall be happy to give them; and if they wish it, I can send a small piece of the rafter, so that they can understand it better than by my description.

If a span roof is desired, a double ridge pole is all that is necessary, with a space wide enough for ventilation, similar to our upper steamboat cabins, and I believe, also, the conservatory at Kew.

I do not know whether you or any one else can understand what I have written; but it is the best I can do.

I have in the vinery 36 vines, 2 plums, 4 peaches, 2 figs, 1 apricot, and 1 nectarine.

I also enclose a sketch of green-house,—showing the position it occupies near the house, and opening on the verandah. Should you wish the plan of its construction, I will send it; as it is different from the vinery, in having sliding sashes behind, on top, made of wood. I will remark, that I shall heat with a "Culver's patent hot-air furnace," arranged in the "Polmaise" manner; having tried one effectually last winter. It is cheaper than water pipes, less trouble to put up, takes less fuel, and in damp weather you can put in as much or little, with the register, as you want. Yours respectfully,

WM. RESORR.

Cincinnati, July 12, 1849.

A WORD OR TWO ABOUT RURAL CHURCHES.

(SEE FRONTISPIECE—DR. MUHLENBERG'S CHURCH, N. Y.)

OUR frontispiece, this month, is a view of a very pleasing and tasteful church, designed by Mr. UPJOHN, and built in New-York, by Dr. MUHLENBERG's congregation.

We give this view, with the hope of leading some of our readers, who have to do with the building of churches in the country, to reflect on the superior beauty and fitness of simple forms of rural pointed architecture, over all other modes for a Christian church in the country.

The most conspicuous object in almost all village landscapes is the church; and we regret to say that the deepest sigh, drawn by the man of taste in the middle and eastern states, is over the sad architectural monstrosities built, in so many country villages, as houses of worship. Lean and meagre wooden structures, filled with windows, painted so white that all is glare within and without, and surmounted by a tower or steeple that defies all rules and precedents, both in proportion and decoration, the only satisfaction one has in looking at them is the feeling that, from the frailness of their materials, they cannot last many generations.

The Gothic or pointed style of architecture is so associated with our religion, and, in its aspiring lines, is so symbolic and suggestive of its faith and hope, that its appropriateness for church architecture is largely felt and acknowledged.

What we especially commend to attention, in Dr. MUHLENBERG's church, is the modesty and simplicity of the structure. It is the common error of uneducated builders to suppose that no architecture is effective or agreeable unless it is elaborate and

highly ornamental. Hence, we frequently see, in the country, a good deal of means expended upon ornamental work, copied from some large building, like Trinity Church, where it is real and excellent, and introduced in some part of a rural church where it is flimsy, and wholly out of keeping with all the rest of the building.

Those points which should be aimed at in a country church are, mainly, that it should have a truthful, church-like expression; that it should never be mistaken for any other public building, without; and that it should always inspire devotional feeling, within. Next to this, a rural church, and more especially when placed essentially in the country, should always have a simple and modest character, in keeping with the rural expression of the quiet nature about it, rather than with the highly artificial objects which surround the church in the town or city.

An admirable and beautiful effect is always produced in churches in the style of our frontispiece, by leaving the whole interior open to the roof, finishing the timber work of the roof (which is either oak, or stained to resemble it,) so as to become characteristic and ornamental. The high roof lines, all tending upwards, give the interior of even a small church, constructed in this way, a lofty, dim and solemn aspect, far more in keeping with devotional feelings and purposes than the plastered ceiling and white walls of most of our country churches.

As regards expense, in all districts where stone or brick is abundant, a rural church may be erected in this simple pointed style



STUDY FOR A RURAL CHURCH.

[Hort. Sept. 1849.]

more cheaply than in any other. Rough or rubble stone wall, covered externally with ivy, or the Virginia creeper, are far more pleasing than the smoothest and richest carpeting; and a church built in this real and solid manner will stand for ages, and, with the lapse of time, grow constantly dearer to all who enter it, while wooden churches only grow old to grow more rickety, and are too frail and temporary to inspire respect by their permanence, or veneration by their antiquity.

THE HISTORY OF THE GROWTH OF A TREE.

BY PROFESSOR LINDLEY.

[WE extract the following interesting physiological description of the growth of a tree, from the new edition of Lindley's *Introduction to Botany*,—a work of inestimable value to the student in this department of science. It will be difficult for such of our readers as are interested in the nature of vital action, and the laws of vegetable growth, to obtain a more definite idea of their general operation than by carefully perusing this extract. Ed.]

I. If we place a seed (that of an apple, for instance,) in earth at the temperature of 32° Fahr., it will remain inactive till it finally decays. But if it is placed in moist earth some degrees above 32°, and screened from the action of light, its integument gradually imbibes moisture and swells; the tissue is softened, and acquires the capability of stretching; the water is decomposed, and a part of its oxygen, combining with the carbon of the seed, forms carbonic acid, which is expelled; nutritious food for the young parts is prepared by the conversion of starch into sugar; and the vital action of the embryo commences. It lengthens downwards by the radicle, and upwards by the cotyledons; the former penetrating the soil, the latter elevating themselves above it, acquiring a green colour by the decomposition of the carbonic acid they absorb from the earth and atmosphere, and unfolding in the form of two opposite roundish leaves. This is the first stage of vegetation; the young plant consists of little more than cellular tissue; only an imper-

fect development of vascular and fibrous tissue being discoverable, in the form of a sort of cylinder, lying just in the centre. The part within the cylinder, at its upper end, is now the pith, without it the bark; while the cylinder itself is the preparation for the medullary sheath, and consists of vertical tubes passing through and separated by cellular tissue.

The young root is now lengthened at its point, and absorbing from the earth its nutriment, which passes up to the summit of the plant by the cellular substance, and is, in part, impelled into the cotyledons, where it is aerated and evaporated, but chiefly urged upwards against the growing point or plumule.

II. Forced onwards by the current of sap, which is continually impelled upwards from the root, the plumule next ascends in the form of a little twig, at the same time sending downwards, in the centre of the radicle, the earliest portion of wood that is deposited, and compelling the root to emit little ramifications; and simultaneously the process of lignification is going on in all the tissue, by the deposit of a peculiar secretion in layers within the cells and tubes.

Previously to the elongation of the plumule, its point has acquired the rudimentary state of a leaf: this latter continues to develop as the plumule elongates, until, when the first internode of the latter ceases to lengthen, the leaf has actually arrived at its complete formation. When fully grown it repeats in a much more perfect manner the functions previously performed by the cotyledons: it aerates the sap that it receives, and returns the superfluous por-

tion of it downwards through the bark to the root; tubular tissue at the same time appears between the medullary sheath and the bark, thus forming the first ligneous stratum, a part of which is incorporated with the bark, the remainder forming wood.

During these operations, while the plumule is ascending, its leaf forming and acting, and the woody matter created by it descending, the cellular tissue of the stem is forming, and expanding horizontally, to make room for the new matter forced into it; so that development is going on simultaneously both in a horizontal and perpendicular direction. This process may not inaptly be compared to that of weaving, the warp being the perpendicular, and the weft the horizontal, formation. In order to enable the leaf to perform its functions of aëration completely, it is traversed by veins originating in the medullary sheath, and has delicate pores (*stomates*,) which communicate with a highly complex pneumatic system extending to almost every part of the plant.

Simultaneously with the appearance of woody matter, the emission of young roots, and their increase by addition to the cellular substance of their points, take place. They thus are made to bear something like a definite proportion to the leaves they have to support, and with which they must of necessity be in direct communication.

After the production of its first leaf by the plumule, others successively appear in a spiral direction around the axis at its growing point, all constructed alike, connected with the stem or axis in the same manner, and performing precisely the same functions as have been just described. At last the axis ceases to lengthen; the old leaves gradually fall off; the new leaves, instead of expanding after their formation, retain their rudimentary condition, harden, and fold over one another, so as to be a protection to the delicate point of growth; or, in other words, become the scales of a bud. We have now a shoot with a woody axis, and a distinct pith and bark; and of a more or less conical figure. At the axil of every leaf a new growing point had been generated during the growth of the axis; so that the shoot, when deprived of its leaves, is covered from end to end with

little, symmetrically arranged, projecting bodies, which are the buds.

The cause of the figure of the perfect shoot being conical is, that, as the wood originates in the base of the leaves, the lower end of the shoot, which has the greatest number of strata, because it has the greatest number of leaves above it, will be the thickest; and the upper end, which has had the fewest leaves to distend it by their deposit, will have the least diameter. Thus, that part of the stem which has two leaves above it will have wood formed by two successive deposits; that which has nine leaves above it will have wood formed by nine successive deposits; and so on: while the growing point, as it can have no deposit of matter from above, will have no wood, the extremity being merely covered by the rudiments of leaves hereafter to be developed.

If at this time a cross section be examined, it will be found that the interior is no longer imperfectly divided into two portions, namely, pith and skin, as it was when first examined in the same way, but that it has distinctly two internal, perfect concentric lines, the outer indicating a separation of the bark from the wood: and the inner, a separation of the wood from the pith: the latter, too, which in the first observation was fleshy, and saturated with humidity, is become distinctly cellular, and altogether or nearly dry.

III. With the spring of the second year, and the return of warm weather, vegetation recommences.

The uppermost, and perhaps some other, buds, which were formed the previous year, gradually unfold, and pump up sap from the stock remaining in store about them; the place of the sap so removed is instantly supplied by that which is next it; an impulse is thus given to the fluids from the summit to the roots; fresh extension and fresh fibrils are given to the roots; new sap is absorbed from the earth, and sent upwards through the wood of last year; and the phenomenon called the flow of the sap is fully completed, to continue with greater or less velocity till the return of winter. The growing point lengthens upwards, forming leaves and buds in the same way as the parent shoot: a horizontal

increase of the whole of the cellular system of the stem takes place, and each bud sends down organisable matter within the bark and above the wood of the shoot from which it sprang: thus forming on the one hand a new layer of wood, and on the other a fresh deposit of liber.

In order to facilitate this last operation, the old bark and wood are separated in the spring by the exudation from both of them of the glutinous slimy substance called cambium; which appears to be expressly intended, in the first instance, to facilitate the development of the subcortical tubular tissue; and, in the second place, to assist in generating the cellular tissue by which the horizontal dilatation of the axis is caused, and which maintains a communication between the bark and the centre of the stem. This communication has, by the second year, become sufficiently developed to be readily discovered, and is effected by the medullary rays spoken of in the last book. It will be remembered that there was a time when that which is now bark constituted a homogeneous body with the pith; and that it was after the leaves began to come into action that the separation which now exists between the bark and pith took place. At the time when the latter were indissolubly united they both consisted of cellular tissue, with a few spiral vessels upon the line indicative of future separation. When a deposit of wood was formed from above between them they were not wholly divided the one from the other, but the deposit was effected in such a way as to leave a communication by means of cellular tissue between the bark and the pith; and, as this formation, or medullary ray, is at all times coetaneous with that of the wood, the communication so effected between the pith and bark is quite as perfect at the end of any number of years as it was at the beginning of the first; and so it continues to the end of the growth of the plant.

The sap which is drawn from the earth into circulation by the unfolding leaves is exposed, as in the previous year, to the effect of air and light; is then returned through the petiole to the stem, and sent downwards through the bark, to be from it either conveyed to the root, or distributed

horizontally by the medullary rays to the centre of the stem.

At the end of the year the same phenomena occur as took place the first season: wood is gradually deposited by slower degrees, whence the last portion is denser than the first, and gives rise to the appearance called the annual zones: the new shoot or shoots are prepared for winter, and are again elongated cones, and the original stem has acquired an increase in diameter proportioned to the quantity of new shoots which it produced, new shoots being to it now, what young leaves were to it before.

IV. The third year all that took place the year before is repeated; more roots appear; sap is again absorbed by the unfolding leaves; and its loss is made good by new fluids introduced by the roots and transmitted through the alburnum or wood of the year before; new wood and liber are formed from matter sent downwards by the buds; cambium is exuded; the horizontal development of cellular tissue is repeated, but more extensively; wood towards the end of the year is formed more slowly, and has a more compact character; and another ring appears indicative of this year's increase.

In precisely the same manner as in the second and third years of its existence will the plant continue to vegetate, till the period of its decay, each successive year being a repetition of the phenomena of that which preceded it.

V. After a certain number of years the tree arrives at the age of puberty; the period at which this occurs is very uncertain, depending in some measure upon adventitious circumstances, but more upon the idiosyncrasy, or peculiar constitution, of the individual. About the time when this alteration of habit is induced, by the influence of which the sap or blood of the plant is to be partially diverted from its former courses into channels in which its force is to be applied to the production of new individuals rather than to the extension of itself; about this time it will be remarked that certain of the young branches do not lengthen, as had been heretofore the wont of others, but assume a short stunted appearance, probably not growing two inches in the time which had been previously suf-

ficient to produce twenty inches of increase. Of these little stunted branches, called *spurs*, the terminal bud acquires a swollen appearance, and at length, instead of giving birth to a new shoot, produces from its bosom a cluster of twigs in the form of pedicels, each terminated by a bud, the leaves of which are modified for the purposes of reproduction, grow firmly to each other, assume peculiar forms and colours, and form a *flower*, which had been enwrapped and protected from injury during the previous winter by several layers of imperfect leaves, now brought forth as bracts. Sap is impelled into the calyx through the pedicel by gentle degrees, is taken up by it, and exposed by the surface of its tube and segments to air and light; but, having very imperfect means of returning, all that cannot be consumed by the calyx is forced onwards into the circulation of the petals, stamens, and pistil. The petals unfold themselves of a dazzling white tinged with pink, and expose the stamens; at the same time the disc changes into a saccharine substance, which is supposed to nourish the stamens and pistil, and give them energy to perform their functions.

At a fitting time, the stigmatic surface of the pistil being ready to receive the pollen, the latter is cast upon it from the anthers, which have remained near for that particular purpose. When the pollen touches the stigma, the grains adhere by means of its viscid surface, emitting a delicate membranous tube, which pierces into the stigmatic tissue, lengthens there, and conveys the matter contained in the pollen towards the ovules, which the tube finally enters by means of their foramina.

This has no sooner occurred than the petals and stamens fade and fall away, their ephemeral but important functions being accomplished. The sap which is afterwards impelled through the peduncle can only be disposed of to the calyx and ovary, where it lodges: these two swell and form a young fruit, which continues to grow as long as any new matter of growth is supplied from the parent plant. At this time the surface of the fruit performs the functions of leaves in exposing the juice to

light and air; at a subsequent period it ceases to decompose carbonic acid, gains oxygen, loses its green colour, assumes the rich ruddy glow of maturity; and the peduncle, no longer a passage for fluids, dries up and becomes unequal to supporting the fruit, which at last falls to the earth. Here, if not destroyed by animals, it lies and decays: in the succeeding spring its seeds are stimulated into life, strike root in the mass of decayed matter which surrounds them, and spring forth as new plants to undergo all the vicissitudes of their parent.

Such are the progressive phenomena in the vegetation, not only of the apple, but of all trees which are natives of northern climates, and of a large part of the herbage of the same countries, modified, of course, by peculiarities of structure and constitution; as in annual and herbaceous plants, and in those the leaves of which are opposite and not alternate: but all the more essential circumstances of their growth are the same as those of the apple tree.

If we reflect upon these phenomena, our minds can scarcely fail to be deeply impressed with admiration at the perfect simplicity, and, at the same time, faultless skill, with which all the machinery is contrived upon which vegetable life depends. A few forms of tissue, interwoven horizontally and perpendicularly, constitute a stem; the development, by the first shoot that the seed produces, of buds which grow upon the same plan as the first shoot itself, and a constant repetition of the same formation, cause an increase in the length and breadth of the plant; an expansion of the bark into a leaf, within which ramify veins proceeding from the seat of nutritive matter in the new shoot, with a provision of air-passages in its substance, and of pores on its surface, enables the crude fluid sent from the root to be elaborated and digested until it becomes the peculiar secretion of the species; the contraction of a branch and its leaves forms a flower; the disintegration of the internal tissue of a petal forms pollen; the folding inwards of a leaf is sufficient to constitute a pistil; and, finally, the gorging of the pistil with fluid which it cannot part with causes the production of a fruit.



Fig. 77.—Plant of *Torenia*, in the collection of J. Dundas, Esq., Philadelphia.

CULTURE OF TORENIA ASIATICA.

BY R. SCOTT, PHILADELPHIA.

SIR—Having introduced this plant to the notice of your readers, in a previous number of the *Horticulturist*, it may be interesting to some of them to give a few more additional hints on its cultivation, and what size it can be grown under good management, as it is likely to become a universal favorite with all lovers of Flora, both from its profuse, rich mottled, dark blue, and violet flowers, and its rapidity of growth.

The treatment which I shall notice more particularly, is that practiced by Mr. BISSET, (gardener to J. DUNDAS, Esq.,) one of the most successful, and best practical gardeners in this neighborhood. He procured

his plant last February, then about four inches high, from Mr. BUIS, nurseryman, who introduced it into this country last fall.

About the beginning of March, from a three inch pot, he turned it into a *sieve*, about sixteen inches in diameter by five deep, in soil one-half rich turfy loam, the other equal portions of peat and leaf mould. After fixing it in the sieve, he hung it up in a hot-house,—keeping it moist by frequent syringing, and topping at every second joint, to make it bushy.

About the end of April he removed it into a Camellia-house, where it now remains. It is trained horizontally,—the side branches allowed to hang down all

round. *It now measures ten feet in diameter*, presenting in all its parts a perfect mass of flowers and foliage,—being the finest specimen I have ever witnessed of plant cultivation.

The principal points to be attended to, in growing it to perfection, are to give it plenty of moisture by frequent syringing, and to stop the young shoots till it has acquired the desired form, when it may be allowed to ramble at pleasure. It is also

excellently adapted for planting in vases, or placing round a fountain, always selecting for it situations where it will be shaded from the mid-day sun. We have planted it out here, in the border, where it is fully exposed; but the leaves are turning brown, and it looks altogether as if out of its latitude, and showing distinctly that it needs more shade and moisture. It is easily struck from cuttings, rooting at every joint like a Verbena.

R. SCOTT.

SOMETHING ABOUT THE FRUIT CONVENTIONS.

BY AN OLD DIGGER.

I AM, as you know, too much of an "old digger," to attend political meetings, agricultural fairs, or even fruit conventions. I am not only a little stiff in my joints, but it makes me nervous and irritable to see mere spouters and stump-speechifiers having most of the talk to themselves in such places, while the honest, sensible men, who have something to say, sit with their mouths closed.

However, I am fond of fruit; and as it is plain that we are to be a great fruit country, and that orchards, good apples, pears and peaches, are to be every landholder's possession, who cares enough for them to plant the trees, I look with a little more interest than common on these fruit conventions.

There is no doubt at all that a great deal of good will grow out of annual meetings of all the most experienced fruit-growers in the country. There is a great deal of knowledge among practical men, which never gets into the books; and many a rough hand, who writes his own name as if he were jumping a bog meadow, has picked up certain bits of experience in

his life time that are worth, if you can get it out of him by talking, a good many more chapters than are to be found in many current books on the same subject. It is quite natural that when such men get together they should set each other agoing, if not by set speeches, at any rate by a chat in the corner; and I have no doubt that as much good is done in this sort of familiar intercourse among brother cultivators as in all others.

But when people go to a national or general convention, they must not take crab apples and choke pears in their pockets. I mean, in plain English, that they must not go crammed full of sectional feelings and local jealousies. It is very proper and very praiseworthy for me to be fond of my own horses and dogs, my own cornfields and meadows; but it will not do for me to imagine them better than any body else's, and tell my neighbors so to their faces. All sorts of social intercourse, societies, associations and communities, are based upon a spirit of *compromise*; that is, every man gives up something of his own pride and selfishness, in order that

the general good may be the gainer by it.

I "*dig*" into this subject a little, because I see the absence of this spirit of compromise appears to have retarded a little the onward march of the fruit-growing interest in the convention. I say *appears*, for I do't know that this is really the fact; for I am told that the conventions, both at Buffalo and New-York, were both successful and useful things; but some of the journals, and especially the agricultural papers, have fussed and fumbled over the meeting of these conventions, each giving a local colouring to the matter, till they have almost made it appear that harmony is impossible, when, in fact, there is not the least cause for discord.

According to the papers, western fruit-growers can't meet with eastern fruit-growers, and eastern knowledge and experience is worth nothing in the west. Softly, my friend. This may be all very well for editors, who wish to rally local parties and patronage round their own presses, but it is a *blight-wind* to your interests, depend upon it. Exactly what you want in convention, is to bring all sorts of different experiences together,—the Boston man, who coaxes his half dozen Bartletts in his back yard with guano, till he makes prize specimens, and the Ohio man, who gathers his apples from orchards that cover half a township, and thinks he is a scientific cultivator. It is exactly by getting all these growers together in convention, and comparing notes, and sifting opinions, that you are to get at the real kernel of the matter; for there *is* a kernel to every nut, as well as a husk. Those who sit down amicably and crack the nut are very likely to get at the kernel. Those who wrangle and quarrel are very likely to get only the husk.

Local patriotism is a good thing. I might call it the foundation stone of the national edifice; for it do't need any argument to prove that if a man do't love his own family, neighborhood and state, he wont love anything rightly. But an edifice is not all foundation; and unless the stones at the bottom of the wall are contented that there should also be stones at the top, it is easy to see there can be no regular house. I have been a little amused with this bubbling up of local patriotism in various articles in your journal, intended to be merely descriptive of the productions, and the fertility of certain sections of our common country. A writer in Vermont is certain that no part of America can beat the shores of Lake Champlain for apples; another, in Illinois, is equally sure there is no part of the Union equal to his for the same fruit. One pomologist, at Buffalo, feels confident that, all things considered, Buffalo is about the best soil and climate in the Union for all kinds of fruit; while you, in the valley of the Hudson, claim to raise the best of everything, from Denniston's famous Albany plums to Pell's still more famous Newtown Pippins.

Very little hurt will come out of this pleasantry in the right place. It is only chuckling a little over the good things Providence has sent us. But we must not grow too serious about it, and declare that we of the west can beat the east in orchards, and do't care to be dependant on her; or we of the east have got all the science, and can teach all the rest of the nation. There is something to learn all round; and if we have learned all that is to be learned at home, and in our own heaven-blest neighborhood, state or county, why then there is a great deal more to be learned by watching sharply what cultivation and cultivators have done all over

the country. But this kind of learning can only be got at by a little forbearance and courtesy towards others, and not talking too large about our own breed of cattle.

As some of the noisiest of this species of tin-trumpet orators have probably gone off to California since last season, I suppose it will be found easy for our future fruit conventions to unite in some plan of comfortable, harmonious action for the future. I am the more confident that this will be the case, from the spirit of good will which I see maintained in your journal,—taking

the ground that a genuine fraternity of interests is the only means of bringing out all the information in the country.

Certainly it is a pleasant thought, that all the leading fruit-growers in the country can meet and fraternise once a year,—bringing from all parts of the Union the stores of their experience, and the fruits of their culture, and raising up a pyramid of knowledge for the general good. It is so pleasant a thought that I will leave it for your readers to revolve in their minds, and see what good may come out of it.

Yours, &c., AN OLD DIGGER.

PAVING A NON-PREVENTIVE.

BY H. W. S. CLEVELAND, BURLINGTON, N. J.

A. J. DOWNING, Esq.—*Dear Sir*—I have just been reading Mr. ALLEN's article on "paving to prevent the curculio," in the *Horticulturist* for this month. By his account, they were effectually stopped on part of a row of plums and apricots, by paving under the trees with flat stones, while the remainder of the same row, left unpaved, continued to suffer by their ravages as in former years. The insects must be much less migratory in that part of the country than with us; and as a proof that paving is not always effectual, permit me to give you some of my experience.

I have in my front yard, at a distance of some hundred feet from any other fruit trees, and separated from them by my house and a high, tight board fence, a single old Yellow Gage tree, which is every year loaded with fruit, and which I have been experimenting upon for six years, in the vain hope of saving a single plum from being destroyed by this insect,—the tree itself being healthy and vigorous. I have

varied my experiments from year to year, and one year I tried the following: First, I took up all the sod about the tree, till I had laid bare a space fifteen feet square; and this sod was thrown into the hog-pen to make manure, and insure the destruction of any insects it might contain. On the spot thus laid bare I spread a peck of salt, and an equal quantity of air slacked lime. I then put on half a bushel of wood ashes, and then covered the whole space an inch deep with coal ashes, and having wet them, rammed it hard with a heavy rammer; then laid a floor of boards over the whole, as closely and evenly as possible, and filled up the chinks by spreading ashes on the boards, and sweeping and washing them in. Could stones make a more effectual paving? The effect was, that I had my labor for my pains. I did not save a single plum; every one being pierced before it was three weeks old. The insects, therefore, must have come from a distance.

Again, some years since, I planted a few nectarine trees for espaliers against a high fence, in a field where, so far as I know, no fruit trees, subject to the curculio, had ever before been grown; and certainly, at that time, there were none anywhere near it. But my first and two succeeding crops were completely destroyed, and I then grubbed up the trees. Both these experiments prove that, with us at least, the insect is of a more enterprising nature than those with which Mr. ALLEN had to deal, which, perhaps, were of Dutch descent.

At the convention in New-York last year, Mr. MANICE, of Long-Island, gave an

interesting account of his success in guarding against the curculio, by a high, tight fence,—going to prove that they do not fly high. I have heard a similar opinion expressed by a distinguished horticulturist in this state; and I hope by another season to be able to give evidence on this question.

Truly yours, H. W. S. CLEVELAND.

Outlands, Burlington, N. J., Aug 14, 1849.

[Paving, as we before remarked, will not answer in *all* cases. Where the curculio is not very abundant, it is a quite sufficient preventive. But, where the whole neighborhood is full of this insect, it fails. Ed.]

LOW HEADED FRUIT TREES AND ATMOSPHERIC CHANGES.

BY A NEW SUBSCRIBER, MASSACHUSETTS.

DEAR SIR—For the many gratifications I have received from reading the highly interesting, useful articles of yours in the *Horticulturist*, I should like to give you a good *heartly* shake of the hand. I have thought many times of a word or two, which I have desired to say for your readers, but have thus far delayed the saying for a more convenient season; but as you have no lack of good correspondents, perhaps you and I both are all the better for the delay. But an article in your last (August) number, from "A Pennsylvania Subscriber," on the management of fruit trees, has induced me to arrange a few ideas in some kind of order for a page or two of your magazine. Some articles by Prof. TURNER, upon the same subject, have been very valuable. The more of such we have the better. Let us have all the light and truth possible upon the subject.

I have long been trying to convince fruit-growers, that it was much better to grow

fruit trees with heads and branches *near the ground*, than to have them branching high over head, and this for various reasons. 1st. The sun, which is, perhaps, in our hot and dry summers, the cause of more disease and destruction in fruit trees than all other causes together, is kept from almost literally scalding the sap, as it does in long, naked trunks and limbs. The limbs and leaves of a tree should always effectually shade the trunk and keep it cool. The leaves, only, should have plenty of sun and light; they can bear and profit by it. If trees were suffered to branch out *low*, say within one or two feet of the ground, we should hear very much less of "fire-blight," "frozen sap-blight," black spots, and the like. 2d. The ground is always looser, moister and cooler, under a low branching tree than under a high one. Grass and weeds do not grow a hundredth part so rank and readily, and mulching becomes unnecessary. 3d. The wind has

not half the power to rack, and twist, and break the tree, and shake off the fruit; a matter of no inconsiderable consequence.

4th. The trees will be much longer lived, and more prolific, beautiful and profitable.

5th. The trees are more easily rid of destructive insects, the fruit is much less damaged by falling, and the facilities for gathering it are much greater; there is less danger in climbing, and less of breaking limbs. 6th. The trees require less pruning, and scraping, and washing; and the roots are protected from the plough, which is too often made to tear and mutilate them. Now these seem to me indisputable facts, sufficient to silence all objections. But the farmer says he must head his trees out of the way of his cattle, so that the boy can ride the horse to plough under them; for he must have *all* the ground planted with something. Nonsense. If you cannot afford the tree a few feet of ground, and good care and cultivation, then cut it down and burn it. If a tree is worth growing, it is worth proper care and culture. Any sensible man must be convinced of this. It is poor business,—this pruning so close and high, in order to plough and plant under the trees. Nurserymen are greatly to blame for so much high pruning, and forming the heads of the trees so high when young. They are, many times, more than half spoiled. An apple or cherry tree is nearly twice as valuable for shooting out low, near the ground, especially on the southwest sides.

That scourge of the pear tree, of which we hear so much, would be much less prevalent, if the trunk and limbs were kept low, and well shaded by their foliage. Let anybody, whose trees are subject to "fire-blight," (or rather, as it should be called, *sun-scald*,) try the experiment and see. It is owing to the hot blazing sun,

for weeks and months together, with scarcely a cloudy day, with five or seven days in succession in which the thermometer rises to 90° or 100° or more in the shade, and would show, if suspended in the sun upon the bark of a tree, from 125° to 150°. Such scalding is enough to make tropical trees exude their gums and resins, and enough to show the absolute necessity of protecting the trunks of trees from such injurious effects. Let any one set out two trees which branch out, say six feet high; let one of them lean very considerably to the north, and the other as much to the south, so that the body shall be well shaded, and see which will grow the fastest, (having equal advantages of light, soil, moisture, &c.,) and be the longest lived and most fruitful. A few observations and experiments of this kind will convince any one that limbs and leaves are valuable for shade, as well as other purposes; and that low headed trees are much better than high, in most cases. If Prof. TURNER will limb his cherry trees out very near the ground, he will not be so much troubled with gum oozings, bark-bindings and crackings.

A word more, in conclusion, about what I suppose to be the cause of so much fire, and other blight, in trees, and also in fruits and vegetables. I had never a doubt of its being, in some way or other, *atmospherical*; and, moreover, could be readily accounted for. A gradual and perceptible change in our seasons has been going on for the last fifteen years. Our summers are drier and hotter than they used to be. We have fewer and shorter storms and showers, with scarcely any lightning and thunder. The electric fluid has some how or other got into an unnatural state, and nature seems not to have the regulating of her own equilibrium, but has it done for her artificially, in a very unsuitable man-

ner; for which she is neither thankful nor disposed to submit to patiently. She has her own ways, her times and seasons, her own conductors and non-conductors, her marks and bounds, and does not thank us for our interferences and meddlings. She never licensed us to use her thunder and lightning for political purposes, or to catch thieves and rogues with. She dislikes our golden calf and iron horse worship, and will not suffer man to steam himself along to his millenium with such accompaniments. She hates monopolies and exclusive privileges, and would manage her own affairs in her own way, and in her own times and seasons.

But metaphors aside, I believe our ten thousand miles of railroads and telegraphs are the cause, the true and primary cause, of nearly all this blight and disease, of which we hear so much from all directions. We heard nothing of this loud complaining till we had long lines of railroads and telegraphs. We had no potato rot before, nor such numberless destructive insects, and curses and reproaches to load them with. Why not? How can railroads effect the matter, and produce such evils? That they do, I have no more doubt than I have that suitable conductors will protect a building from destruction by lightning. That they are strong conductors of the electric fluid, no one can deny. That they operate to conduct this fluid from the atmosphere, carry it off, or diffuse it too much, so that there is a deficiency in the same for a healthy vegetable or animal life, is at least very probable, if not certain. So we have tree blight, potato rot, cholera, and all manner of ills. The atmosphere, in its natural state, is *positive*, and the earth *negative*, electrically. Such natural relationship seem now to be destroyed, or much disturbed, and the effects

are visible enough in many ways, and, I doubt not, will grow more and more so for years to come. For the last six or eight years, or more, we have had dry seasons, or times of drouth, long enough to materially injure vegetation. The present season it has been unusually long and severe. Throughout New-England, it has been from ten to twelve weeks' continuance, without rain enough to moisten the roots of corn and potatoes; nor have similar seasons been uncommon of late years. We have had but two or three bits of thunder showers this season, (up to Aug. 10th,) and no one of them big enough to more than lay the dust for a day, although there were six days in succession in June, commencing the 19th, hot enough for a tropical August. On the 19th and 20th, the thermometer rose to 92° in the shade. On the 21st and 22d, it reached 100°; and on the 23d and 24th, 92°. July 11th, 12th and 13th, the mercury rose to 98°, 99° and 101°, on a fair trial in the shade. Now is not a blazing sun,—capable of giving the mercury such an awful elevation, and keeping it there so long, with such paucity of electricity that not a cloud floats the blue ethereal, big enough for a *parasol*,—sufficient cause for the potato and other rots, blights and witherings? Fruits fairly exposed to the sun in some places are literally baked. So are potatoes oftentimes in the hill done brown, like a herring at the roasting. Now with this, to me, all sufficient cause, manifest enough too I should think, why all this moonshine of insect theories, visible or invisible?

The electric fluid is as important in the animal and vegetable economy as air and water, and should not be disturbed, or turned from its natural workings. That it is, very effectually, by so many railroads and telegraphs, I have no doubt. Thus

come long drouths, excessive heat, potato rot, and many other ills.

Now I want you, Mr. Editor, to call upon some of your correspondents, of lynx-eyed sagacity,—Prof. Turner, Dr. Beecher, Mr. Longworth, or Dr. Valk, (or do it *yourself*,) to give us their views upon this matter. It is a subject of interest and importance, and we want more light upon it, and must have it. If railroads do such mischievous things, then the fewer we have the better.

[Our new correspondent's spirits are, evidently, affected by the long drouth; and we congratulate him on the copious rains which have fallen since the receipt of his letter. We should be half inclined to agree with him about the effects of the railroads and telegraph wires, except that England is a *cobweb* of such conductors, and nevertheless has, we understand, had a *wet* season. ED.]

A NEW CORRESPONDENT.

B—, Massachusetts, Aug. 14, 1849.

DESCRIPTIVE NOTES OF NEW STRAWBERRIES.

BY MARSHALL P. WILDER, BOSTON.

DEAR SIR—I have read, with pleasure, the various articles in the Horticulturist, and other periodicals, which have of late appeared on the "vexed strawberry question." Although I have nothing of special interest to communicate, I herewith add some notes from my memoranda, which I hope may be of service to those desirous of proving new varieties. I have tested some thirty sorts this year, either partially or fully. Many of these were highly lauded, and sold at exorbitant prices; but very few of them are worthy of extension.

MYATT'S ELEONORA.—Flowers, staminate; fruit, extra large; form, conical, long, flattened; colour, bright scarlet; flavor, juicy and good. Medium bearer,—setting about one-fourth of its blossoms.

MYATT'S PROLIFIC.—Staminate, large, resembling Eleonora, but more pointed; colour, light glossy scarlet; flavor, sweet and rich. *Not* "prolific."

HOOPER'S SEEDLING.—Staminate, medium size; form, conical, occasionally coxcomb shape; very deep crimson; surface, highly glazed; flavor, rich, sweetish.

LA LAGEOISE.—Flowers, staminate, very large, and highly ornamental; fruit of moderate quality. Very unproductive.

MYATT'S MAMMOTH.—Staminate, with ample cone of pistils; form, irregular oblong, flattened; colour, very dark, almost black; flavor, juicy and rich; size, large. Sets about 40 per cent. of the blossoms.

ABERDEEN BEEHIVE.—Staminate, below medium size. A good bearer for one of this class, but too acid, except when dead ripe. This variety forces well, as will most of the staminates, where light and heat are at command. Except for this purpose, it is no acquisition, whatever may have been its character with the vender.

RICHARDSON'S EARLY.—Pistillate; size, medium; colour, very dark crimson; flavor, pleasant sub-acid, good. Ripens with the Early Virginia, and produces well,—the best early pistillate, and makes a good mate for this sort.

RICHARDSON'S LATE.—Staminate; the pistillate parts being well developed. Fruit, large, roundish, with short neck; colour,

light crimson or scarlet; flavor, rich sub-acid, sprightly and good. This kind ripens its fruit in succession for several weeks,—a good bearer for one of its class, and was on exhibition this year as late as July 21st.

NEWLAND'S MAMMOTH ALPINE.—Many thousand plants of this variety have been sold the past year, and I doubt not honestly, under the belief that it was really a new and valuable sort. It is not, however, dissimilar to the *Old Red Alpine*, Stoddart, Hasting's Monthly, and many others, raised directly from seed of that variety. The bearing properties are all that has been warranted by the vender; and the secret of which is correctly explained by the "Old Digger," in your last number of the Horticulturist, on deep and rich soil.

BURR'S NEW PINE proves equal in delicious quality with the Swainstone, but, I apprehend, is rather a moderate bearer.

BURR'S No. 1, (not named,) received from Mr. ERNST, is a pistillate plant, and bears enormous crops. Fruit rather too acid.

BLACK PRINCE is very unproductive with me. Does it still bear well with you, and what is the soil and treatment? [Very fine and productive here; requires a deep, rich, and perhaps rather clayey soil. Ed.]

EEBERLEIN.—Slightly staminate; proves a productive variety, with somewhat of the flavor of the Hautbois.

CUSHING, MARY, and many of Dr. BRINCKLE's seedlings, are very prolific, and would no doubt be valuable as market fruits; but in quality, hardly worthy of general cultivation. It seems now to be generally conceded, that the *Early Virginia*, *Hovey's Seedling*, and the *Hudson*, are the most profitable for this purpose; but the Willey, (much like the Hudson,) and Jenney, are even more productive.

Mr. JENNEY informs me that he sold of his seedling, from *less than three-fourths of an acre*, this season, (including about one-fifth of the Virginia as fertilizers,) 2,700 boxes (quart size,) and that he packed at least 500 boxes more,—making, in all, 3,200 boxes, or 800 dollars, at twenty-five cents a box; the price at which his crop was engaged.

BOSTON PINE, I notice, has done well with you. The present dry and hot season has been favorable for all the *staminate* sorts. This is a fine flavored, handsome fruit, but like most of this class, must have a plenty of "sea room" and good treatment to give satisfaction.

I still entertain the opinion that *staminates*, (or as they are termed by some, *hermaphrodites*,) cannot be relied on for large crops. I think if any one will compare their bearing properties with the best *pistillates*, he will find the ratio not greater than as 6 to 10. There is, however, a great difference with the *staminates*, in this respect; some of which, unless kept thin, and exposed to light and heat, are almost barren and abortive.

P. S. You are probably aware that we have no pears or peaches, and very little fruit of any kind in this region. The "oldest inhabitant" cannot recollect a season when, in proportion to the trees, there was so little. There may have been more than one cause for this failure; and I attribute it to the cold of November—about the middle—when the thermometer went down to 12°, the philosophy of which you understand. There are a few exceptions, where the crops are tolerable; but these are on sandy, light soils, where the wood and juices were early matured. I do not think I shall have fifty varieties of pears on my grounds, and in all not one bushel; and I have scarcely a new sort to show.

I noticed, however, a few days since, three specimens of March Bergamot on my tree, and at Mr. WALKER's, about a dozen Josephine de Malines, from scions which he had of me only two years since. This

would indicate an early bearer; but I have several strong trees, which are quite reluctant to set fruit buds.

Yours, M. P. W.

Boston, Aug. 11, 1819.

FOREIGN NOTICES.

BRITISH TEA CULTURE.—The relation between vegetation and climate is a much more important horticultural consideration than many imagine. We learn from its study not only why the grapes of Fontainebleau and the Clingstone peaches of Italy cannot be obtained in England, but also that with such means as gardeners at present command there is no possibility of obtaining them. Cuttings may be brought, trees may be imported, the stocks on which they are grafted may be varied, but the result will still be unsatisfactory. The climate of Great Britain is not that of Paris or Naples. If this were more generally borne in mind, gardeners would escape the blame imputed to them by unreasonable persons, for not performing physical impossibilities.

But if the attentive study of this important and most interesting subject teaches us to know what is impossible, it also guides us in determining what may with certainty be accomplished. It would have taught the speculators in Assam tea to distrust the issue of their enterprise, as it, on the contrary, inspired the scientific advisers of the East India Company with most entire confidence in the success to be anticipated from cultivating tea in some of the northern provinces under British rule.

The introduction of the cultivation of tea into the Himalaya is one of the most important events in the social history of British India. Independently of the commercial advantages that must result from it, the preparation of the leaves will of itself afford profitable employment to a peasantry sunk in the lowest and most helpless poverty, not from their own lazy habits, but from the total absence of all remunerating occupations. Dr. Hooker gives the following example of the condition of the peasantry in the north of India. A youth had been eaten by an alligator, and this is the state of his parents:

"The poor woman earns a scanty maintenance by making catechu. She inhabits a little cottage, and has no property but two bhiles (oxen,) to bring wood from the hills, and a very few household chattels; and how few these are is known only to persons who have seen the meagre furniture of Dangha hovels. Her husband cuts the trees in the forest, and drags them to the hut;

but he is now sick; and her only son, her future stay, was he whose end I have just related. Her daily food is rice, with beans from the beautiful blue-flowered Dolichos, trailing round the cottage; and she is in debt to the contractor, who has advanced her two rupees (about 4s.) to be worked off in three months, by the preparation of 240 lbs. of catechu. Rent to the Rajah, tax to the police, and rates to the Brahmin priest, are all paid from an acre of land, yielding so wretched a crop of barley, that it more resembled a fallow field than a harvest field. All day long she is boiling down the catechu wood, cut into chips, and pouring the decoction into large wooden troughs, where it is inspissated. This Zillah is famous for the quantity of catechu its dry forests yield. The plant is a little thorny tree, erect, and spreading a rounded coma of well-remembered prickly branches. Its wood is yellow, with a dark brick-red heart: it is most productive in January, and useless in June."

To provide employment for people like these is the first duty of a civilised government, and was no doubt the cause of Lord Hardinge's earnest advice to the Court of Directors that the tea plantations should be aided by the whole power of the Indian Government.

A highly interesting account of the "progress of the culture of the China Tea Plant in the Himalayas, from 1835 to 1847," has been given by Dr. Royle, to whose judicious counsels its establishment there has been mainly owing. The following facts, which we borrow from his pages, will explain briefly the history of the experiment, and the highly satisfactory results which have attended it:

"It was in the early part of the year 1827 that I first mentioned to the Earl Amherst, then Governor-General of India, the probability of a successful cultivation of tea in the Himalayan mountains, and included it specifically in a report which was presented to the Indian Government at the latter end of that year, stating that 'It does not appear by any means so delicate, or so limited in geographical distribution, as is generally supposed, and although it appears to attain the greatest perfection in the mild climate about Nankin, yet it flourishes in the northern latitudes of Peking and of Japan.' On Lord William Bentinck visiting the

Saharanpore Botanic Garden, in 1831, I again mentioned the subject, and included it in the report which was presented to his lordship, in which I stated my wish 'to attempt the cultivation of the tea plant, of which the geographical distribution is extended, and the natural sites sufficiently varied, to warrant its being easily cultivated.'—

"Though unacquainted with the fact, I was, in the year 1839, informed by Mr. Greene, that Sir Joseph Banks had many years previously recommended the cultivation of tea in the Himalayan mountains, and that Dr. Govan had also done so at a later period. Dr. Wallich also, in the year 1832, presented a paper to the Committee of the House of Commons, recommending the cultivation of tea in the districts of Kemaon, Gurhwal, and Sirmore. Not having had an opportunity of detailing my reasons for the opinions which I had so long entertained, I did so in my 'Illustrations of Himalayan Botany,' pp. 107 to 127, published in 1834."—"At the time that the above paper was printing in this country, Lord W. Bentinck, with the sanction of the Court of Directors, had determined upon attempting the cultivation of tea in India. A Tea Company was appointed, who reported that, 'the experiment may be made with great probability of success in the lower hills and valleys of the Himalayan range.' To this they say they were led by a 'very able and interesting letter of Dr. Falconer on the subject.' This letter, or report, is remarkable for coincidence in argument and in opinion with what I was at the same time writing and printing in England; and this without any communication of ideas; for the two essays must have crossed each other at sea."

"Tea seeds arrived in Calcutta in January, 1835, and produced numerous plants, which were dispatched to the districts where it had been determined to establish tea nurseries, that is, to Assam, and to the Kemaon and Gurhwal portions of the Himalayan mountains. I had recommended several situations, as Bheemtal, Hawulbagh, Deyra Doon, and Pinjore, in valleys elevated from 2000 to 2500 feet; Almora, Jurreepanee, Nahn, and Sabathoo, at elevations of from 4000 to 5000 feet; and one locality, Mussooree, at 6500 feet of elevation, in 30° of north latitude. Dr. Falconer, without any communication, selected Chejoree, Rama Serai, and Koth, at elevations of 4000, 5000, and 5300 feet; with two situations, Ruroo and Beehur-bagh, in Sirmore, at 5100 and 5400 feet. He subsequently selected the valley called Deyra Doon, elevated 2500 feet, as a favorable site, especially after irrigation had been facilitated by the establishment of canals. Sites were at the same time selected in Kemaon by the commissioner, Mr. Traill, and placed under the charge of Mr. Blinkworth, a plant collector of the Calcutta Botanic Garden, until October 4, 1839, when he was placed under the general superintendence of Dr. Falconer. One nursery was established at Bhurtpore, between Bheemtal and the Ghagur range, at an elevation of 4500 feet; and a second

nursery at Luchmaisor, near Almorah, at 5200 feet of elevation. The general directions given by the Calcutta Tea Committee were, that 'a decided winter climate of six weeks or two months' duration, with frost as well as snow, is essential to ensure final success with really good sorts of tea."

The plantations were thus established, and immediately began to grow with all the vigor that had been anticipated. The next step was to obtain some Chinamen who understood the art of preparing tea; not an easy task. The men first engaged refused to proceed to Kemaon; Dr. Wallich, however, succeeded in engaging nine others, who reached their destination in April, 1842. In January, 1843, the first sample of Himalayan tea was received in England, and "reported on by members of the Chamber of Commerce, who pronounced the tea to be a very good marketable article, and worth in London about 2s. 6d. per lb. The specimen sent to London was reported on by Messrs. Thompson, of Mincing-lane, and pronounced to be 'of the Oolong Souchong fine kind, flavored and strong.' This is equal to the superior black tea generally sent as presents, and better, for the most part, than the China tea, imported for mercantile purposes."

Dr. Jameson, then in charge of the tea plantations, and from whom this sample was received, "having proceeded to visit the Kemaon tea nurseries, reached them in April, 1843, when he found them 'looking admirably, and the Chinamen employed in manufacturing black (Pouchong) Tea;' which, he states, 'appears to be a much superior quality.' On the 30th August there were forwarded by the overland route 16 small canisters of the above tea, covered with wax-cloth to protect it from wet. The wax, unfortunately, gave a little of its flavor to the tea, as the canisters got injured, and did not arrive at the India-house before the month of December."

These teas, notwithstanding the injury they had sustained from unskilful packing, were reported by the brokers to be worth from 1s. 2d. to 3s. 6d. per lb.

Since 1843 various other plantations have been established. "The latest report of Dr. Jameson shows the quantity of land under tea cultivation, in the districts of Kemaon and Gurhwal, including the Deyra, to be 176 acres, and the total number of plants, 322,579. The plant is stated to be thriving in different localities, extending over four degrees of latitude and three of longitude, and that 100,000 acres are available in the Deyra only, for the purpose of tea cultivation."

In July, 1846, a sale of tea took place at Almorah, "with considerable increase in the prices. The average price was 6 rupees 14 a., and some of it sold as high as 7 rupees 7 a., that is, something more than 7s. per lb., without any duty; and it was a further gratifying fact, that most of the tea had been purchased by natives."

In August, 1847, "Dr. Jameson wrote from

Paoree that another sale of tea had taken place on the 9th August, at Almorah. 'The amount realised for green tea varied from 10 rupees 8 a. to 9 rupees 4 a. (that is, more than 9s. and 10s. per lb.) For black tea, the amount realised was 7 rupees 8 a., the maximum, and 4 rupees the minimum.'—'On the 4th October, he states, 'I have just received orders from Government to form tea plantations on the whole of the hilly districts of the northwest frontier, from the Sutledge and new country lately acquired west of that river, to the Ravi,' and that he proceeds immediately towards Kangra to inspect and select sites. The Governor-General pronounces the tea to be as fine as any Chinese tea he had ever drank. Dr. Jameson concludes by stating his conviction that tea will shortly become a most important article of production from the northwest provinces.'

This amount of success is the more remarkable when it is considered that only the inferior species of tea is as yet cultivated in India, and that the *art* of manufacturing tea, like the art of wine-making or tobacco-making, can only be acquired by much experience. The samples of the teas which we have tasted, both black and green, although not equal to the finest Chinese samples, were quite as good as the tea usually consumed in the houses of the middle class; and leave no possible room for doubt that, with experience, and a better description of tea plant (which Mr. Fortune is now specially engaged in China in obtaining,) the tea trade of India will be a most formidable rival to that of the Celestial Empire. It is already a matter of official record "that, though the Pouchong (black) tea sold at an average rate of 6 rupees 8 a. 8 p. per seer, and that at least half the quantity sold was bought by natives, the coarse Bohea tea was reserved and sold to the Bhooteahs at a price varying from 2 rupees to 2 rupees 4 a. per seer. 'It has been purchased by them, in order to carry it across the passes into Thibet. Nor will it be long, if the importation of Kemaon tea into Chinese Tartary is not prohibited, before that market is wholly supplied from the British provinces.'

The quantity of tea manufactured in 1848 is officially reported to be 2656 lbs. Dr. Jameson states "that, of this, he had just despatched 600 lbs. of black and green tea to this country, and that 'it was finer looking than any sent in former years;' also, that, 'by the end of this season, there will be 400 acres under cultivation at Kolaghir in the Doon;' and 'at Paoree I expect to have 200 to 300 acres;' and that he has 'about 250,000 seedling plants ready to transplant.' 'Last season I sent a lac (100,000) of the plants to the Kangra valley, where most of them are doing well;' while 'the seeds collected from our own plantations this season amount to upwards of 2,000,000. From the plantation of Deyra (Kolaghir) we shall be able, in the course of eight or ten years, to raise a sufficient number of plants to plant the whole Doon.'

We heartily congratulate Dr. Royle and his Indian coadjutors upon the success of their great experiment; and we cannot close these hasty remarks more appropriately than in his own words: "I have been gratified to find that the inferences deduced from scientific data have been fully borne out by the practical results. There is no doubt that if the best kinds of tea plant are obtained from the northern districts of China, and with them a few manufacturers from the places where the teas most esteemed in commerce are prepared, and which are consequently those most in use by the British public, that any kind or quality of tea may be prepared as good and as cheaply in the Himalayas as in China. For we have an equal command of soil and climate, with cheap and abundant labor, unoccupied land at a low rent, with comparatively small expense of carriage even to Calcutta. But India itself, with other parts of Asia, will consume a large quantity of tea, when it is obtainable at a moderate price, and even if of a quality inferior to what has already been produced in the Himalayan mountains. *Gardeners' Chronicle.*

GARDENS ABOUT LISBON.—"*Lisbon, Jan. 14:* On Saturday I went to see an orange grove beyond Belem and a little in the interior. Such a road through the quinta! that even (bold as I am, and used to bad roads,) I thought of getting out of the carriage. The day was like one of the loveliest of May. The best thing I saw on turning round a corner was a group of almond trees in full flower; but the flower is not like that of our almonds. It looked like beautiful Codlin bloom, though larger and more open. The orange trees in the groves, or rather plantations, are not picturesque, not being allowed to grow large, and they are pruned—not forest trees like those near Seville; but the walk through them and the getting out of stuffy Lisbon was very refreshing. The place was a pretty quinta once, but now quite wild and neglected. I had the pleasure of gathering myself a nosegay—China Roses, Paper Narcissus, the orange-coloured Bignonia, and Cineraria, from such a bush. The ground under the orange trees in parts was covered with the pretty yellow larged flowered Oxalis, which we grow in pots, and the pretty dark purple and green striped Arum. Altogether the excursion gave me an intense longing for Cintra, and if the weather of to-day were to last, I do think I should be tempted to go for a day; but it will be wiser to wait till a few wild flowers come out. The young orange trees are planted in squares, protected by hedges of high reed, especially the Tangerines. *Jan. 17.*—Again a splendid day, though the first of the morning was foggy—window open, and my room perfumed with the flowers which Madame de M. sent me, and those I brought yesterday from Pomboal, where, as the boat was ordered and the day very favorable, we went. We set out at 10 o'clock, that we might be home by sunset, as it

is cold after that time (that is, what is called cold here.) The row down the river was very delightful; the bands on board her Majesty's ships playing, and marines tumbling into boats to go ashore to be exercised under Sir C. Napier. The ships very fine. Presently a Brazilian brig, that had been exchanging salutes with the guard ship at the mouth of the river, begins banging away right and left in honor of the British ships in the river. We see flash, smoke, and hear report, the echoes on each side of the river repeating every sound. Her English Majesty's ships not behind-hand in returning compliments. We intended to land close to the quinta which we were to visit, but before we got there the boatman (that fine fellow who rowed us to Casilis when you were here,) says No; that there were breakers in the river, which, with the tide and wind, would make our journey unpleasant, and so we put into a little dirty village a mile and a half on this side the quinta, and I had a donkey to ride and a boy to drive it (the latter brute had eaten so much garlic that though he was always behind the donkey I always smelt it, and thought he had the power of breathing round a corner.) The quinta is situated at the mouth of the Tagus, beyond the convent on the right bank. It was given by the king to the great Marquis de Pombal, and again I longed for you to have seen it, and could not help reproaching my conductor, but he says truly the time of your stay was short, and that there were two or three days lost by rain; indeed the weather is finer than when you were here, I think, in October. We were not allowed to see the house, because the Marquis was there. The house and gardens are much in the Italian style, the only things Portuguese consisting in parts of flights of stairs and fountains and seats and the coloured tiles we so much admired at Seville. Nothing can be better than the gardens for their size, the beauty of them consisting in their formality; those near the house are laid out with low Box edgings, those distant with high Box hedges I call them, and double ones sometimes. They are so designed that, like those of the Junquera, which you saw near Belem, winter or summer, with or without flowers, the effect is good; but they are better than the Junquera, for they have on every side splendid trees and orange groves of great extent, and here the orange trees were of large size, and especially when seen from on high are really very beautiful; long walks, shady, and in the hottest days of summer impervious to the sun's rays, are to be enjoyed on one side of the formal gardens; very fine deciduous trees edge a small stream, over which several bridges are thrown and walks like those of Ramalhao are not wanting; this stream separates the gardens in two parts, and the style of each is the formal, as I have said before, but different. In the lower one, which appears the oldest, and in which are the high Box edgings and a beautiful fountain, there is a Dragon tree, finer than that at the Botanical Garden. I measured the trunk of

this one; it is more than two yards round; the limbs look like great snakes, the head had been covered with great spikes of flowers; it was, I suppose, 20 feet high. Charming stone columns supporting busts are placed at the entrance of each great walk, the offices at the end of the garden are made ornamental and a finish to it, by a beautiful architectural wall; there are stone flights of steps, with carved balustrades, highly finished; busts, vases, and every sort of ornament. But the whole scene is spoiled—by what? The most total neglect; weeds grow in every path, choke up the hedges, force the stones out of their places. All that is done is to cut the Box square, and shape the corner Box trees of the parterres. A more neglected place I never saw. A more enjoyable one could not be desired, and I should prefer it to Cintra, as being close to the sea, and because the climate is so fine you might live there both winter and summer. We crossed the road and went down a walk more than half a mile long (Grass,) hedged with tall Laurustinus, breaking into flower, while the tall blue Periwinkle in full blossom, but pale, was climbing up them. On each side of the hedge were vast groves of orange trees, loaded with ripe fruit, which perfumed the air. On one side, at the end of this, we found a great blue wall (semicircular,) encrusted with the above mentioned tiles, and a high fountain in the centre, with the water trickling through great masses of Maiden-hair fern into a basin below. We ascended a flight of steps near the fountain, and returned to the gardens along a high terrace that overlooked the great orange groves, real gardens of the Hesperides, for their fruit brings gold. The day was so lovely that I walked about. Again sat down on the stone steps under the Dragon tree, gathered violets, and was sorry when the time for the tide to turn obliged me to return to my donkey. The road back gave us beautiful views of sea and land, &c." *Gard. Chronicle*.

POTATO ROT.—The dry cool weather which we have enjoyed for the last few weeks will have saved the potato crop from destruction, if anything can. But as all is still uncertain, and as appearances are becoming every week more unfavorable, it is desirable that the attention of cultivators should again be directed to a statement made in our columns of the 9th of June. It is there mentioned that Mr. Tombello Lomba, of Namur, had saved his crop every year by cutting off the stems, *after flowering*, and while yet fresh and green, and then covering the ground with earth to the depth of about 1½ inch; the top-dressing thus applied not being disturbed till the potatoes were ripe.

This proceeding appeared to have the advantage of seriously diminishing the amount of the crop, even though it preserved the potatoes; but it would seem, from a recent despatch from Lord Howard de Walden to Viscount Palmerston, that this has not proved to be the case. The English

minister at Brussels having caused some inquiries to be addressed to Mr. Tombelle Lomba, that gentleman has returned a reply, from which the following is an extract :

"I can state in the most formal manner, that when the potato stems are cut off with a sickle properly sharpened (*avec une faucille dont le tranchant est convenable*) the tubers are not at all interrupted in their growth; that they remain attached to the stem until they are ripe, just as if the haulm had not been removed; and that *they acquire as large a relative size as potatoes which have not undergone the operation*. I have so often observed this continuation of growth that I can speak positively to its going on without the slightest interruption, and that the treatment which I have recommended *is not attended by any loss whatever of size or quality*. I can offer the most positive assurance as to this; it is only necessary to take great care that the implement employed in cutting off the haulm shall be so sharp that the stems may be separated without disturbing the roots (*sans les soulever, afin de ne pas les detacher des fruits.*) It is also proper that the stems should be removed from the ground immediately after being cut off; and especially that no time be lost in covering the surface of the ground with a layer of earth at least half an inch thick."

We earnestly beg our friends in all parts of the country to try the experiment in the manner so clearly pointed out by this Belgian gentleman. Should it prove, as he confidently predicts, that the crop is thus to be saved, not only will a most difficult problem in cultivation have been solved, but some physiological questions will arise, to which attention has never been sufficiently directed. It is certain that potatoes cannot be per-

fectly formed without the agency of leaves. Leafless abortions indeed will appear and feed upon their parent tuber till they have exhausted it, but they are mere abortions, and of no account. If leaves are thus necessary to the production of potatoes, it would seem at first sight that to remove the branches can only result in the loss or great injury of the crop. But it may be that potatoes, after having arrived at a certain condition, possess the power of continuing their growth by their own proper and unassisted vitality; and this is rendered the more probable by the well known fact that the flour which gives them their principal value does not descend directly from the leaves, as flour, but is in the first instance of the nature of gum, or some other fluid organisable matter, formed in the leaves and sent downwards into the tubers. Having reached the tubers it undergoes its final change, and from a soluble substance is gradually converted by their vital force into soluble flour. To that final operation we have no reason to suppose that the leaves contribute; all that they do is to produce the matter out of which the tubers generate their flour.

It must be observed that Mr. Tombelle Lomba does not cut off the stems *till after flowering*. It is possible that at that time the leaves of the potato have done their work, so far as tubers are concerned, and that their further duty is to nourish the fruit. If so, we have an explanation of the result of which that gentleman so positively speaks. At all events, since we have a reasonable assurance of his practice having proved successful in Belgium, and as there is nothing in it at variance with possibility, or even probability, it is certainly one that has strong claims upon the attention of practical men. *Gardeners' Chronicle*.

DOMESTIC NOTICES.

NATIONAL CONVENTION OF FRUIT GROWERS.—The second session of the American Congress of Fruit Growers will be held at Castle Garden, in the city of New York, on Tuesday, the second day of October next, at ten o'clock, A. M.

As it was, at the last session, resolved that all pomological, horticultural and agricultural associations of North America, be invited to send delegates to this Congress, the undersigned respectfully urge upon all such societies the immediate appointment of delegations composed of their most experienced fruit growers and pomologists, so as to make the coming assemblage the most interesting one, on this subject, ever held in this country.

The undersigned also respectfully invite all pomologists, fruit growers, orchardists, and nursery men, and all others interested in the subject, to attend the coming session.

Among the objects of this Congress are the following, viz : To endeavor to ascertain by comparison of fruits, the relative value of varieties in different parts of the country :

To ascertain from the reports of the State Fruit Committees, which are the best varieties for local cultivation, and which are adapted to general cultivation :

To compare opinions respecting the value of new varieties; to discuss the diseases of fruit trees, the best manures and methods of culture, unsettled points in pomology, and to elicit and disseminate information and maintain a cordial spirit of intercourse among horticulturists.

Essays and papers may be expected from distinguished scientific and practical cultivators, on various interesting topics in pomology and horticulture.

In order to increase as much as possible the interest of the convention, the delegates are requested to bring with them, (carefully packed and labelled, so as to present them in good order.) specimens of all fruits grown in their vicinity, that may be worthy of notice, together with a small branch and leaves, if possible, of every new variety.

Every contributor is earnestly requested to make a list of his specimens, and present the same with his fruits, in order that a report of all the varieties entered, may be submitted to the convention as soon as possible after its organization.

The convention will hold its meetings in the New Saloon, kindly tendered by the American Institute for its accommodation. MARSHALL P. WILDER, (of Mass.) President.

S. B. PARSONS, of New York; P. BARRY, of New York; GEO. B. DEACON, of New Jersey, Secretaries.

RETROSPECTIVE CRITICISM.—*Mr. Editor:* As I have been a much interested reader of your journal from its first publication, I propose to make monthly criticisms on such of its articles as may demand a note or two of comment, as they occur to my mind in passing, and by way of example I send you the accompanying remarks. They are, as you see, in the "free and easy" fashion of one who speaks what he thinks; not unprofitable, perhaps, by way of addenda to the general reader. If this meet your approbation, I propose to continue them, at least for a time.

CRITIQUE ON THE JULY HORTICULTURIST.

Your Leader, on Cemeteries and Public Gardens.—How refreshing and grateful it is to contemplate the growing taste in our country for rural cemeteries! So rapidly is this correct and delightful taste spreading throughout the northern states, that hardly a town of any note but has already established, or is about to establish, its public cemetery in some picturesque, retired spot. When, fifteen years ago, I first visited Mount Auburn, near Boston, and looked around among its sweet, secluded graves, and read its silent, yet eloquent monuments, I almost thought it a pleasure to die, and be so buried; at least a consolation for leaving so many bright and beautiful things in life, to lie down in such a spot, where good men would tread around, and holy thoughts breathe over my dust!

In an after-conversation with a distinguished and reverend poet, on the subject of rural cemeteries, and of Mount Auburn, I shall not soon forget the delightful manner in which he spoke of his own selected burial place in that consecrated ground,—may it be long before he shall be called to occupy it!—that it lay on a shady knoll, looking out on the distant bay with its shining waters, the rising wooded hills beyond, and, dearest of all to him, the spire of his own hallowed church in the city; as sweet a vibration of poetic feeling as ever ran in his own touching verse.

But I digress. You can employ your pen no better than in often waking the attention of our countrymen to the importance of this subject, as well a promoter of public health in our cities and towns, as enlarging our taste for the useful and the refined.

In recommending public gardens, I fear you but address deaf ears. When our intelligent and enlightened Americans cease to mutilate objects of taste in art, to whittle away banisters, and railings, and columns on our public buildings, and places of resort, and cease cutting their names and initials on every tree which shades such of our beautiful grounds as are already frequented, and behave as well in such particulars as barbarian Turks, and infidel Frenchmen, and Italians, and the "almighty dollar" ceases to be the highest god of their worship, then may we hope to see your suggestions carried out. But until then, "Barnum's Museum," *et id genus omne*, will continue to pocket the spare shillings of the multitude, and those who really love the rural, and its pleasures, will either resort to those spots for enjoyment over which they have the exclusive control, or do, as they always have, without them. A chapter might well be written on this subject, which a few might read and appreciate. But it would pass, and the multitude would move on as before, regardless of all right taste and improvement in a subject that did not promise to put cent per cent into their pockets. [But we believe it will put cent per cent, and cannot see why the public should not respect the property in beautiful public gardens, as well as luxurious hotels and steamboats. Ed.]

"On Bark-bound Cherry Trees."—I don't believe a word of any such necessity. If the *hide-bound* tree is properly cultivated at the root, and proper manures applied, it will find out its own method of "bursting the bark," "tough as a sheet of tin" though it be, which, by the way, it is not. Why not, when turning out a hide-bound, over-labored horse to pasture, after a dose of physic, or a smart bleeding, strike with a knife his back and sides, that through his expanded hide the new flesh may grow! The scurf and dandruff removed from his skin by the curry comb is all that we suppose the brute requires; and why should the vegetable, in the physiology of which it in many particulars resembles the animal, be treated more rigorously? The scraper, the brush and soap-dish will do its full office for the tree, be it cherry or other. Professor TURNER's difficulty, to which Mr. NEWTON alludes, lies deeper than any mechanical process which he has described. The deep, rich, alluvion, and the rapid and extreme changes of atmosphere in Illinois, acting decidedly on the exotic (as they too often are) trees reared in other and distant localities, will, on examination, be found the chief obstacles in their cultivation. It will be found that these new and peculiar soils must, in many cases, have fruits of *their own origin and growth*, to be successful; and the sooner

their pomologists practice upon this principle the better. This, among other important matters, will be ascertained through the pomological meetings and conventions.

On the Principle of Suggestion in Rural Taste.—Capital. W. talks like a man of sense. Strange that people, close, calculating and generally shrewd in their own affairs, as are the Americans, should, in the *very most important item* of their comfort, farm out their wits in the composition of their houses, to a set of empirics, such as our modern house builders, too many of them, are. I have more to say on this matter as occasion may offer. Till then, and afterwards too, heed the remarks of W. His allusions to the "fine carriages," reminds me of the old gentleman's story of his brass andirons, that cost him two thousand dollars! Five, was the *first* cost, but then the old fire-place and mantelpiece that so well comported with the old iron "dogs," which the new "shiny" ones replaced, appeared so awkward to the good wife and daughter, that they had to come down; and so, one after another, the quiet old house was altogether pulled away, rebuilt, and new moddled, until a piano was introduced, and the family, before contented and happy, was really miserable from their altered house and apparel, without a change of *personal* condition. There is a "fitness of things" in this world, talked of a long time ago, and although many people now-a-days strive hard to forget it, 'tis true as ever.

A Visit to London Gardens, &c.—It will do for noblemen in England, who enjoy the income of thirty or a hundred thousand laborers a year, or of societies patronized by the wealth and the money of such noblemen, to enjoy in the splendor and magnificence of their fruits and plants under glass and walls, what the hutless *sans culotte* of southern Europe may take at his ease, in the open air. Yet it is a redeeming trait in these wanton expenditures, that great improvements are constantly making in the correct cultivation of our "open" fruits, from which we may draw much information. "Seven hundred varieties of pears" in cultivation, and fifty only of which are good! In these we have here named five autumn and five winter pears, which are *best*. But are we *certain* that even more than the Louise Bonne de Jersey, and Beurre Bosc of the former, and Glout Morceau and Winter Nelis of the latter, are worth cultivating *here*? The sooner we narrow down our selections of *all* fruits to a *succession* of small variety, in their proper seasons, and those the *very best for the locality* in which they are cultivated, in *all* our fruits, the sooner we shall be rid of much trouble of body, and vexation of spirit, as well as expense of purse.

An old Digger's Practical Hints to Amateurs.—True, every word of it. Read it again. I cannot add a word to its importance.

Mr. Rivers on the Pear.—A capital article, and a subject on which very much is yet to be learned in America. We are but beginners in true

pear culture; and not until we drive the miserable "Windsor," "Sugar" and "Bell" pears out of our markets, and supply their place with the *really* good pears, which we can just as easily grow as them, can we date much *true* progress. Of "root pruning" in *extensive* pear culture, I have my doubts. Will it pay cost in this country? Let us have the narrative of our own experience before we too rapidly adopt it. The details of such practice as Mr. RIVERS is always valuable, and the more of such information spread before the American public the better.

Experience in Orchard Culture.—I am very glad to know that Mr. ALLEN has had the courage to go so vigorously into fruit in a district of country where it is so much needed. Why is it that in localities, often the most favorable for certain productions, there is so little attention paid to them? I am credibly informed that scarcely a good pear, or a really good fresh peach is to be found in the Buffalo markets. And yet I know, from personal observation, that the country around that city will produce both those fruits in great perfection. What beautiful fruit grows almost spontaneously about Lundy's-lane, on the Canada side of Niagara Falls. Peach trees now in full bearing, forty years old, as they told me, and eight or ten inches in diameter of trunk, as I saw! Why should not Grand Island with its thousands of acres of land, a part of which, I learn, is free and open soil, produce any quantity of choice peaches annually? I am glad that Mr. A. is so particular in describing latitudes, elevations, and soils. These are indispensable in knowing what we are to do in fruit culture. When he gets further along I hope we shall hear more of his "experience," and until then, wish him all desirable prosperity in his labors. I would like to know a little more about the virtue of that "iron ore" Mr. A. speaks of as affecting the pear blight. Will no one else notice it?

This is enough for once. The remainder of your number, "Foreign and Domestic Notes," carry their own commentaries. Should the foregoing please you, I will promise to continue my notes for a limited time, at least. Yours truly, *Jefries*.

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POMOLOGICAL NOMENCLATURE.—*Mr. Downing*—As you are one of a Standing Committee, to whose charge the pomological convention of last year entrusted all matters particularly appertaining to fruits, I take the liberty to suggest, for your consideration, a reform in the nomenclature, much needed, I think; by which the names of foreign varieties shall be reduced to a level with the comprehensions and lingual capabilities of those who do their cultivating in the fields, and not in the closet. The great unlearned portion of fruit-growers and consumers of the country have had scant opportunities to acquire the necessary skill to execute those outlandish contortions of tongue and countenance, under which is concealed the identity of many of the fruits growing plenti-

fully enough in their own fields and gardens. Hence, in the matter of pears, for instance, they either comprehend every variety and description of them, under the everlasting titles of "Sugar Pear," or "Virgaloo," or affix to them names of their own invention, (by which the existing confusion is constantly augmented,) rather than incur the risk of strangulation and ridicule in an attempt to give utterance to the snufflings and gutturals which, under a diversity of modulations, represent the names of most pears of foreign origin. True; there is now and then a customer who is not "put back" any, to speak of, by such impediments; who, either in contempt of everything foreign, or in the bliss of the infallibility acquired in his spelling-lessons at the district school, *talks the thing straight out*. My neighbor, JOHN GREEN, is one of this favored class. He stammers at nothing short of the Russian. Returning once from an exhibition of rare fruits, he brought away a few specimens, duly labelled, with which he proposed to test the knowledge of an amateur fruit-grower, of whose pretensions he felt a little jealous. Withholding the label from one of them, he accordingly asked him its name. The amateur unhesitatingly pronounced it the "*Gloomerso*." "No sir-ee," says John, triumphantly displaying his label, "it is not the *Gloomer*, either; it's the *Glaout Morsaaw*." And John was sustained by the almost unanimous voice of his neighborhood. Now sir, if "*Glout Morceau*" means anything, why not render it into language spoken by the Democrats of our own land, and let the fruit be known by an appropriate name,—retaining in the books its foreign appellation as the ruling synonym? And so of half the fruits in cultivation. What possible idea would friend Green and his constituents derive from hearing a convention full of well Frenchified Yankee stalk glibly of (I give the pronunciations,) *Coorpahnduplah*, *Draw-door*, *Begareogro-cure-eye*, *See-oat-ah*, *Duke-do-tell-ye*, *Onfoutprodeeeje*, *Keeltet*, *Sahn-gwenoleahshareadhayrout*, *Bellybun*, *Sahnpo*, *De-ahprayrooje*, and an hundred other sounds equally heathenish and unintelligible. Resolute as he is, I doubt whether he would not turn pale to be told he had swallowed such things; an experiment upon the imagination which I would not recommend a trial of during the prevalence of the cholera.

As the task of modifying a few hundred of these foreign abominations to the capacities of common tongues and understandings, would be somewhat more practicable than to teach some millions to comprehend and pronounce them, and as the evil is one of frequent complaint, and is, in reality, to large numbers even of intelligent persons, a constant source of vexation and annoyance, I most earnestly and respectfully urge upon you to lay the subject before your committee, and to lend the influence of your high authority toward the mitigation of their sufferings, by a speedy correction of the cause. Sincerely sympathising with

hem, I am, &c., J. C. H. *Syracuse, 8th August, 1849.*

[There is a great deal of pith in what our correspondent says, and we have very seriously contemplated bringing out an edition of our work on Fruits, with a translation of all foreign standard names of fruits, instead of the foreign names, ourselves. In the nomenclature of natural history, where a dead language is universally used, there is a great and manifest advantage in the use of a language which is the same in all countries; so that if a collection of seeds or plants botanically named, is received from any part of the globe, the names are alike understood and recognized by all botanists, whether Russian, German, French, or English.

But the names of fruits are mostly local names, in modern tongues, and as ninety-nine hundredths of all the large and increasing class of fruit-growers in this country are unfamiliar with any foreign language, it is of course not to be expected that they should always pronounce foreign names of fruits correctly.

We see no reason why all the French names of fruits should not be Anglicised in pomological works; the translation being adopted as the standard name in every country where the fruit is known, and the original foreign name being given as the synonym. Thus, instead of saying *Fondante d'Automne*, we would say *Autumn Melting*; and instead of *Ananas d'Ete*, *Summer Pine-apple*. This has already been done in many cases; as *Belle de Flanders* is now always called *Flemish Beauty*; and *Nelis d'Hiver*, *Winter Nelis*. Local names, like *Urbaniste*, would of course be retained, and would receive our common pronunciation, (as no one thinks of calling *Paris*, *Par-e*; or *Ghent*, *Gann-d*.)

This subject is well worthy of serious consideration; for it is clear, that pomology and fruit-growing are destined to be matter of more general attention in the United States than in any other country; and the best nomenclature for us, is one best adapted to the wants of the class for whose daily use it is intended,—a class, not of scholars, but of workers. We shall be glad to gather a more definite idea of the state of public opinion generally on this subject, and hope the fruit conventions will consider it. Ed.]

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NIGHT BLOOMING CEREUS.—Having a fine plant of the Night Blooming Cereus, which has bloomed a number of times this season, and a friend wishing to see it who could not be present on account of ill health, I tried the experiment of cutting off a flower towards the night it was to open, and putting it into water the same as a bouquet. The result was that it opened as well as those on the plant.

One other was cut off towards night, the eve it was to open and carried seven miles with the stem wrapped in wet cotton. This was put into water in the same way, and I afterward learned that it

opened beautifully to the delight of the friends receiving it. Your respectfully, *F. W., Newark.*
Wayne Co., N. Y., Aug. 16, 1849.

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BURR'S NEW PINE.—*A. J. Downing, Esq.:* In the number of the Horticulturist for August, 1848, in speaking of *Burr's New Pine Strawberry*, you say, "We do not hesitate to pronounce it *one of the best*, and perhaps the very best, American strawberry yet raised." I wish to inquire whether from the experience of the present season, your opinion of last year is confirmed, or what further you are now enabled to say about it, from actual experience; also, what is the best soil for it. I have full confidence in your opinion, upon any subject of this nature; but the public have often been humbugged with new fruits, particularly strawberries, and two years experience is better than one. Is the Bicton Pine to be had at any American garden? Yours respectfully, *A Connecticut Subscriber.*

Our good opinion of Burr's New Pine is unchanged. It is certainly the best flavored American seedling yet raised of good size and productiveness. It is impossible to say yet how it will succeed in different soils and latitudes. But so far as we have heard of its trial it has given the highest satisfaction; at Rochester, N. Y., it has been much praised; Mr. Huntsman of Long Island (see p. 61,) who is a good judge, considers it "the most desirable strawberry in cultivation;" and the fruit committee of the Albany Horticultural Society, who have had fine specimens exhibited for two years past, reported this year "that the further opportunity afforded them to compare Burr's New Pine with other standard varieties, fully confirms them in the opinion expressed at the last exhibition, viz: 'That it is entitled to the first rank, taking into consideration its many desirable qualities.'"

On the other hand we notice that Col. WILDER, at Boston, in his notes in a previous page of this number, fears that it will prove a poor bearer. But the majority of experience, so far, affirms the other way.

The Bicton Pine was imported last spring by Col. WILDER, who is always among the foremost in introducing desirable varieties, but we believe was lost on the way. As it is said to be a fine new *white* berry, we hope it will have a trial here. ED.

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THE GORDONIAS.—Sir C. Lyell's "second visit to the United States" contains so much information on the natural history of this country, that it should be in the hands of every one who is fond of the study of nature. It contains many botanical remarks,* though geology is the topic which most delights the author. His observations respecting the delta of the Mississippi, especially regarding the "sunk country" about New Madrid, and the geological inferences he deduces from the

* See especially in vol. 1, his account of the distinct zones of vegetation on Mount Washington.

effects of the earthquakes of modern date in that region, will interest all readers of intelligence.

In the following the author alludes to the peculiarly small locality of one of our most valuable fall blooming trees, (*Gordonia pubescens*,) which in dry situations is hardy as far north as Philadelphia, and probably still further. I have one, thirty-five feet high, which scents a large circumference with a fragrance quite as agreeable as the flower of the *Magnolia glauca*. *J. J. S., Philadelphia.*

"If," says Darwin, "two species of the same genus, and closely allied habits, people the same district, and we can say why only one of them is rare and the other common, what right have we to wonder if the rarer of the two should cease to exist altogether."

"In illustration of this principle, I may refer to two beautiful evergreens flourishing in this part of Georgia, species of *Gordonia* (or *Franklinia* of Bartram,) a plant allied to the camellia. One of these I saw everywhere in the swamps near the Altamaha, where it is called the Loblobly Bay, (*Gordonia lasianthus*) forty feet high, and even higher, with dark green leaves, and covered, I am told, in the flowering season, with a profusion of milk-white, fragrant blossoms. This plant has a wide range in the southern states, whereas the other, (*Gordonia pubescens*) often seen in green-houses in England, about thirty feet high, is confined, as I am informed by Mr. COOPER, to a very limited area, twenty miles in its greatest length, the same region where BARTRAM first discovered it, seventy years ago, near Barrington Ferry, on the Altamaha. In no other spot in the whole continent of America has it ever been detected. If we were told that one of these two evergreens was destined in the next 2000 or 3000 years to become extinct, how could we conjecture which of them would endure the longest? We ought to know first whether the area occupied by the one has been diminishing and that of the other increasing, and then which of the two plants has been on the advance. But even then we should require to foresee a countless number of circumstances in the animate and inanimate world affecting the two species, before we could make a probable guess as to their comparative durability. A single frost, more severe than that before alluded to, which cut off the orange trees in Florida after they had lasted a century and a half, might baffle all calculations; or the increase of some foe, a minute parasitic insect perhaps, might entirely alter the conditions on which the existence of these or any other trees, shrubs, or quadrupeds depend."

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KNEVETT'S GIANT RASPBERRY.—I am glad to learn that Knevett's Giant Raspberry proves hardy with you. It is much prized here, as it stands our winters perfectly well, and uniformly bears large crops of fine fruit. *Yours sincerely, M. P. Wilder. Boston, Aug. 11th, 1849.*

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MUNIFICENT BEQUESTS.—The late Hon THEO-

DORR LYMAN, of Boston, has bequeathed \$10,000 to the Massachusetts Horticultural Society. Mr. LYMAN's seat at Brookline, is one of the most beautiful in point of taste in New England, and his previous donations to the Horticultural Society showed how deeply interested he was in its efforts to improve the arts and culture in the Eastern States.

He has, we learn, also bequeathed \$50,000 to the State Reform School, and \$10,000 to the Boston Farm School.

When we reflect on this wise and steady liberality towards sound and useful institutions for the public good, in the wealthy citizens of Massachusetts, it is not surprising that that state should be so far in advance of most others in good government, intelligence, and prosperity.

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FAIRS AND SHOWS.—The New York State Agricultural Fair takes place at Syracuse on the 11th, 12th and 13th, of September. The promological convention will take place directly after the fair.

The New Jersey Horticultural Society holds its annual exhibition at Princeton on the 19th, 20th, and 21st of September.

The New Haven Horticultural Society's exhibition is held on the 25th, 26th, and 27th of September.

We have not received any official notice of the annual shows of the Boston and Philadelphia Horticultural Societies, but presume they both take place the third week in September.

.....
FRUIT PRESERVER.—Having been a subscriber to the Horticulturist from its commencement, and seeing a notice in the same that questions will be answered to those who are subscribers, I take the liberty to ask your opinion of "Kephart's Fruit and Vegetable Preserver." It is now about two years since every agricultural and horticultural publication had a notice of the same, and pronounced it a valuable invention, but of late I do not hear anything further respecting its power to prevent decay, or preserve whatever may be placed within the vault. If it is a humbug I would be glad to know it, for I am now building a dwelling, from which it is easy to have a communication with the vault, (should I put one into my ice house.) An immediate answer by mail will much oblige yours, J. G. Pease.

We are quite unable to give the desired information. We only know that Kephart's Fruit Preserver is in constant use in Philadelphia—and that fruits are preserved several weeks after the usual period by it. How well, or how easily, or exactly by what means they are preserved, we know not. Perhaps some obliging correspondent in Philadelphia will give us the necessary facts for publication.

.....
STR.—I have in my possession a copy of your "Fruits and Fruit Trees of America," in which you recommend the cultivation of native grapes in

open and sunny borders. Now I have a board fence running east and west, about 40 feet long and 8 feet high. But on account of a foot walk on the south side and close to it, it will be impossible to plant vines on this side of it; therefore I wish to inquire if it would be advisable to plant them on the north side, and train the vines under the fence, and so upon the south side.

By answering these inquiries, you will much oblige your humble and obedient servant, Edgar M. Woodford, Unionville. West Avon, Ct., Aug. 13th, 1849.

[It will answer perfectly to plant the roots on the north side, and, bringing the main shoot through, train the vines on the south side. What the grape needs is plenty of light and heat for the leaves—the soil is always warm enough for the roots.]

CRITIQUE ON THE AUGUST HORTICULTURIST.

The Leader.—Good. You cannot too strongly impress on us Americans, who go into those subjects of rural improvement altogether too much by fits and starts, the love of home life and home scenes. We never shall be a truly refined people until we live somewhere, and cease spending the chief part of our time in steamboats, rail-cars, hotels, and boarding houses. We too often thwart nature in this country, instead of directing and chastening it. To enjoy country life, we must be educated to it. How many of our "fashionable" travellers, think you, see the country as they pass through it? Few, and far between, as we all know—and all for lack of natural taste, and well directed early education.

Pomological Notes from Mississippi.—I like these notes of what people are doing—they are positive data, as far as they go, from which we can draw reliable conclusions to govern our own work, so far as we are in like circumstances.

Notes on the best Strawberries.—Excellent. Ditto to the last.

Paving to prevent the Curculio.—I am right glad if anything has proved effectual in keeping off the curculio. I wish that every owner of plum trees would pave a few, and send you the result after a year or two of trial. Possibly, however, as you remark, pigs and chickens may answer the purpose as well; but it strikes me that both pig and chicken must be pretty well trained to it before they will eat green plumb and apricots. You have probably heard of some fruits being so sour that it would make a pig squeal to eat it! Rooting and scratching the ground, however, I consider is efficacious in giving growth to the tree, if nothing more. I hope to hear more on this subject.

[They devour the insects which come out of the fallen fruits.—ED.]

How to manage Fruit Trees.—Quite correct; but this plan must be confined to small trees only. All large fruit-bearing trees require a space of some feet in height beneath their branches for the circulation of air. Look at the very next article,

where the gooseberry, five feet above the ground, doubles the size of its fruit, and escapes the mildew. Leaves and fruits are great consumers of the atmosphere, and they can't thrive and bear good fruit without it. For proof, examine a closely planted and low branched orchard. The wood and foliage is usually cankered, and the fruit insipid and tasteless. Let the reader bear in mind that *low branched trees* must be at a good distance apart. I like this article the better for its facts. Hanging out the thermometer is *knowing* something, from which conclusions may be drawn. I should like to hear from "Subscriber" again.

The Gooseberry grafted on the Yellow Currant.—Let us have a little more experience in this new method. It may be a valuable mode of cultivating that *equivocal* sort of fruit; and if *people will* eat green gooseberries—for I hardly ever knew any one who liked ripe ones—pray let us have them in as great perfection as possible.

The White Bellefleur Apple.—This article is what I like. Here is investigation and fact—no fancy about it. If all promologists will go thus to work, we shall soon know what is what in our fruits. I doubt, however, whether the white Bellefleur will prove a profitable orchard apple east of the great lakes. For Ohio, and other western states, it will unquestionably prove of value.

Design and Description of an English Cottage.—Are we never to have any *American cottages*? Our climate is unlike European climates, particularly England; and why copy every thing of the house kind, excepting in internal arrangements, from that country. But there are some things about this house, bating the *gimp* and *pasteboard* look of its outside, that I like; particularly its *upper kitchen*; and had it only that other *indispensible* appendage of a really comfortable house, a large family bedroom on the main floor, I should like the interior plan of it right well. Try it again Mr. WHEELER; add on the bedroom; throw the roof into some sort of ship-shape; tack a light veranda on to the front as well, and then you will have quite a sensible house of it. What a wretched bother this filagree work makes when you want to repair a house. Let the owner of one but try it, and he will be satisfied.

Knevet's Giant Raspberry.—Glad to learn that it is so valuable a fruit. Let it be cultivated by all means, and to its greatest extent; for the raspberry is one of our best *small* fruits. Its hardness is altogether a disideratum in our northern states.

How to make Strawberry Beds.—Capital, as usual. But, my dear "Old Digger," where are we all to get our "sixteen inches of manure" to fill a "three foot trench," or even "eight inches, or a foot" of it for a "two foot trench." No, no. That may do for a rich man with only a few rods of ground, near a large town, or a city. But it won't pay in a "crop." We common folks must get our

best grounds, and plow and manure as well as we would for a crop of corn; plant a good distance, say not less than two feet apart, litter the plants well, and they'll do. [We suppose the Old Digger's directions are for a bed or two in the private garden; not for a market garden. Ed.] I'm glad you've shown up the "Washington Alpines;" and there are *some other things* that want to be shown up likewise. I recollect paying a man who came peddling his plants round the country, two or three years ago, with a *picture* of them as a sample, and "first rate" certificates from "gentlemen of the highest respectability," some four or five dollars for a few. They all died but one, and last June that bore, after a deal of pains in cultivation and manuring, a poor little *alpine* strawberry about as large as a ground sparrow's egg! and of flavor as contemptible as its size; served me right enough too; I shan't be so caught again. "Digger's" last paragraph is very important. For want of such caution many a beginner has failed in his strawberries, and laid the fault to something else.

A Short Experience, &c.—This is a valuable article, as it shows what can be done by extraordinary cultivation, and manure. But, will it pay? I wish Mr. FULLERTON had kept debt and credit account with his berries. However, for those who can afford it, the plan is a good one. What do you mean, my dear sir, by "a strong loam," on which Mr. F. raised his berries? Is it a clay loam, or a sandy loam? We like to know all about these things. A clay loam, even stiff, is thought by many the best for strawberries, particularly that which has a decomposition of old wood, sods, and leaves among it. I hope Mr. FULLERTON will go on with his bed, and give the public the results of its cultivation and bearing for another year. *Continued* experiment is what we want. [A strong loam is a loam with a good deal of clay; a light loam, one with a good deal of sand. Ed.]

English Shows.—I am very glad that Mr. COLMAN tells the truth to his countrymen about the good, honest fashion, of English women going to the great cattle shows, and looking at their cattle. When will our American ladies think they can look at "the chanting cherubs" without petticoats, and suffer their pianos to stand up without pantaletts on? But they can do some things—they can see Fanny Ellsler dance, and not shrink behind their fans, or bolt the theatre door. We shall mend our manners, probably, as we go along. Mr. C. gives us fine accounts of the incomes of English noblemen, and of their dogs and of their horses; but he does not set down by the side of them the vast incumbrances on many of their estates, which makes their proprietors mere trustees for the "next heir male," nor detail the destitution and misery which exist in the huts and cottages of many of their dependants. There is much in England that is good, and a great deal that is very beautiful, but at vastly too much sacrifice of human comfort and happiness. How

many famishing wretches could be fed and clothed with the bread given to those "splendid" horses; and the meat cut up for those worthless hounds; and how many thousands could be employed in the cultivation of those stately pleasure grounds, so ostentatiously extended! Would not those "parks" waving in broad fields of grain, and dotted with beautiful herds, and vocal with the mirth of jocund laborers be equally pleasant to the eye of a true philanthropist as now? Yes, and abundantly more. There is something in England rotten, as well as in Denmark—and so they will ere long find out. God fend Americans from all such calamity.

The Swan.—Very pretty to read about, but let that end it. A swan is a perfect fool out of water, and in a country like ours, where the streams and ponds are frozen for half the year, a China goose is infinitely better; and they are a nuisance in any well ordered grounds. If you must keep a swan, let it be in a pond inside a conservatory, and then it is in keeping with the other exotics. But if you don't believe it, first invest the money, and the time that I have done in "fancy" water fowl, and you will be wiser in a few years. Most people have "swans" enough in their own geese, and I am quite content that they shall live on such "poetry" alone.

To prevent Potatoe Rot.—I doubt it. I have read near a wheel-barrow load of essays and pamphlets on the potatoe disease, and tried all sorts of preventives, and know no more about it than ever. Side by side they grow—some will rot and some will keep. The same neighborhood produces bad, good, and indifferent, with equal cultivation, on the same soils and from the same seed. May not the disease, like the cholera, be partially atmospheric? At all events we know little about it as yet, and I fear that all investigation will be alike unsatisfactory. Plant sound seed, in soil of moderate fertility, dig early, and keep dry, is the best plan I have yet known. *Jeffreys. New York, Aug. 1849.*

[We recognize in "Jeffreys," the pen of a well known writer, and shall be glad to hear from him again. Ed.]

SUMMER BLOOMING EXOTICS.—*Sir*: The facility with which the plants of tropical climates are cultivated in this country during the summer months, not unfrequently renders our stoves and greenhouses receptacles for tools and lumber, during this season of floral beauty, instead of being embellished with the choicest productions of the vegetable kingdom. In some establishments, where an attempt has been made to fulfil the design for which these edifices were intended, 'tis not unusual to see plants of discordant habits, and natives often of the very opposite sides of the globe congregated within the limits of a small house, in which the temperature, atmosphere, and mode of treatment are always the same to one plant as to another; hence it is, that if certain tribes of plants are to be cultivated on an exten-

sive scale, and to their greatest perfection, the house must be as much as possible adapted to their nature, and that no plants be introduced amongst them whose general treatment does not correspond with those for which the house is principally set apart. My object, therefore, is to submit to your readers a notice of such plants whose easy culture and unrivaled beauty, with a little care, will give a succession of bloom from May till October, and whose moderate prices at the public nurseries place them within the reach of every amateur.

For this purpose I would merely select the Genera *Fuchsia* and *Geranium*, with their numerous varieties of all hues. To keep a succession of flowering plants, it is necessary to strike cuttings as early in the spring and summer as possible; when rooted they will grow rapidly in a cold frame, kept rather close, and shaded occasionally in hot weather. By this simple and easy means, they will be ready to put on the stage when the earlier plants are getting unsightly and out of bloom. *Achimenes*, *Gloxinias*, and *Gesneras*, if grown in a close frame till flowering, and then removed to the green-house, will make a magnificent display, intermixed with the other plants. The graceful and free-flowering *Manetia bicolor*, and nearly all the species of *Begonias*, if flowered in a stove, are equally well adapted for a mixed green-house during the summer months.

The foregoing plants when flowered and removed to their summer quarters, will all thrive under the same treatment, (except that *Achimenes* and *Gloxinias* do best when the pots are placed under a saucer of water.) Heat and light are the two great agents of nature which call organic life into existence, and without which those beautiful colors and striking forms that surround us on every side would have remained inorganic substances. These agents require to be differently adjusted to different tribes of plants when exposed to bright sun, particularly under glass, for the loss of water by plants depends mainly upon the intensity of light to which they are exposed, as the following propositions affirm: 1st. Plants perspire most in bright sun: 2d. They perspire least in weak, diffused light: 3d. In darkness they perspire none at all.

Upon the first axiom is founded the practice of shading; but if this is carried to too great an extent, according to the third proposition the plants become etiolated and die. The second proposition shows the medium in which all plants, which like *Fuchsias*, *Achimenes*, etc., naturally grow in the shade, flourish; hence it is that close muslin, strong canvass, or bass mats, so frequently used, are objectionable, as excluding too much light, the plants thereby becoming etiolated, that is, blanched, as already suggested. Canvass of the slightest material is preferable, not only because it preserves the plants from the burning sun, but that it will also admit sufficient of its vivifying rays and light to enable the plants to assimilate their juices. I

am, sir, respectfully yours, *M. C. Newburgh,*
Aug., 1849.

A BEGINNER'S TROUBLES.—I wrote an article, which appeared in the February number of the *Horticulturist*, giving an outline of a plan I had adopted for planting an orchard,—the result, as I thought, of the collected wisdom of the various chapters "on transplanting," and catalogue directions; which plan was submitted rather interrogatively, and with due deference to experience everywhere; and fortunately, I concluded, received the brief endorsement of the editor,—that "we (the editor,) are always glad to hear of such thorough orchard planting." But lo! a wise man from Buffalo blows up the whole plan, in the "*Genesee Farmer*" for April, and declares, with its editor for endorser, that our "deep holes" will not do, and gives his plan. What are the ignorant to do when doctors disagree? Nevertheless, I have not taken the trees up, but subsoiled the ground early in the spring; and they are all growing finely. [You have not a hard-pan soil, and your Buffalo critic probably has; and what would be best in your soil would be worst in his. Ed.]

Received a quart of Osage Orange seed from Cincinnati the winter of '47-8; submitted it to the frost in an open box of damp quarry sand, planted it the 7th of April, and a portion of the seed—say one-half—vegetated, and made a growth of some two feet. I thought them too small to transplant to where I wished the hedge, and now they have made such a huge growth,—branching out in every direction with new shoots, of more than three feet in length,—that I now scarcely know how to manage them. Can these shoots be used as cuttings? And will they make good plants? [They will make good plants if the cuttings will strike; but we doubt the latter. Ed.]

I obtained a peck of seed from the same place this spring, poured water, heated to a degree scarcely to be borne by the hand, upon the seed, agreeably to the counsel of western cultivators, and allowed it to remain in the water some forty hours, (a rain preventing me planting sooner,) and then planted in good mellow soil; but not one seed ever germinated. All rotted in the ground. Was the seed worthless; or was it immersed too long; or was the water too hot? [The seed received from Arkansas is often spoiled before it arrives; but if not, forty hours soaking would be likely to destroy its vitality. Ed.]

I purchased a lot of fine rooted plants, of the large Red and White Dutch Currant, from one of the New-York nurseries, desiring to have the best in cultivation. They have grown well, and borne fruit; and prove to be identical with those cultivated in my father's garden from my childhood. Have also procured Knight's Large and Sweet Red, Champagne, and May's Victoria, at high prices; and doubt much, from the fruit they have borne, whether they will prove at all superior to the Dutch. [The true Dutch currants are very much finer and larger than the common sorts.

May's Victoria is also a distinct and excellent sort. Ed.]

As long as I can remember, there was a fine bed of asparagus in my father's garden; but I wanted better, and sent off to Flushing for that "*Giant*" kind, which now, if I were to name it, would call "*Lilliputian asparagus*;" for it is trifling, compared with our own old kind.

I sent five hundred miles for Hovey's and other strawberry plants. Black Prince, and some others, proved true and done well. Hovey, no better than the common scarlets of our hills; and shall dig them all under this fall. [We think it more than probable that you really obtained neither Giant asparagus or Hovey's strawberry. Ed.]

At a high price, I procured twenty-four varieties of imported gooseberry plants, of bearing age. They are all more or less covered with mildew, and large berries falling prematurely to the ground, while a variety considerably disseminated here, and known as the "*Cluster*" gooseberry, is loaded down with ropes of medium sized, light red berries,—even plants numbering but a second summer's growth; and never, so far as I know, is it affected with mildew. This kind I think is entirely identical with the prolific gooseberry bush, described by Dr. BOSWELL, in the *Horticulturist* of January, 1848,—having received cuttings myself of that bush, from Dr. HARVEY, its proprietor, in the spring of 1848, which fruited finely this season.

I obtained the Ohio Everbearing raspberry from Kentucky. It grew, and bore finely one crop, but have seen nothing of its "*Everbearing*" propensities, but appears entirely similar to some of our native kinds. [It is precisely like the common "*black-cap*;" but in a cool, deep, clay soil, it bears abundant crops in October. Ed.]

I have had the true Red Antwerp, Franconia, and Fastolf, in bearing this season. The two former are larger, but not superior in flavor to some of our native sorts, cultivated in our garden; but the last is decidedly first rate in all respects. Doubtful whether they will withstand our cold winters. We have covered ours slightly with earth, bending down the canes, which proved ample protection.

To finish off, allow me to propound a query or two. Should the Early Richmond, or common Kentish cherry, be propagated from seed, suckers, or worked upon the Mazzard stock? With others, some time back, I had some doubts whether the seed of the Kentish would grow, as it is never seen growing wild, only as a sucker from others; and having failed several times in efforts to get the seed to grow. But this spring I planted some, which had been boxed in sand from the day they were taken from the tree, and they have come up and grown quite well. Will the size and quality of the fruit be improved by raising from seed? [Raise by seed, by all means; but as you cannot be sure that they will always be

early or late Morellos, you may work them afterwards, if you choose, with known sorts. Ed.]

Wise men, who claim to know, have written much upon the movements of the sap, and that *new wood is only deposited in its downward course*. If this theory be sound, is it not a sufficient reason for adapting "reversed shield budding," making the horizontal, or "crosscut" at the bottom, instead of the top of the upright cut in all budding operations? Further, if two strings are important in budding plums, and other difficult fruits, is not this method still more necessary?—for when the upper string is removed, the lower one still binds the horizontal, and also upright cut in part, allowing free course to the sap in its downward flow to the bud, and a better opportunity, therefore, for the formation of new wood, and, consequently, a speedier and better union of the bud and stock. Besides, as the foot-stalk of the leaf is serviceable in enabling the operator to insert his bud with speed and neatness, will it not be much easier and safer to force the bud *up* than *down*, by taking hold of the foot-stalk?

I practice budding very little in any other way, and think I can perform the operation much faster, and with more certainty of success.

One matter further. Much is said about transplanting evergreens. I have no theory, and but little practical knowledge. Still, I transplanted a few very nice White Pines from a neighboring forest the last of March, and some quite large Hemlocks, from the "banks of our Brandywine," the last of May, with entire success; both periods being very damp rainy weather; since which, however, it has been, and is now, unusually dry. *J. Chester co., Pa., Aug. 3, 1849.*

A NEW YELLOW CLIMBING ROSE—*Dear Sir*: As you have repeatedly requested that notices of new and rare plants, &c., should be forwarded to you, I have taken the liberty to bring to your notice the following magnificent fragrant double yellow running Rose, raised by Hon. JAMES MATTHEWS, of Coshocton, Ohio. I extract from his letter of June 7th, some account of this valuable acquisition to the Rose family:

"I would be glad if you could be with me a week hence; as by that time I will have some roses in bloom on a seedling of my own raising. It bloomed with me last year for the first time, and is truly *not* a common or ordinary variety of Rose; but a very *splendid* new variety. You know I have seen some of the best roses in cultivation, and I assure you I have not seen its superior, either when partly or fully expanded. As I fear you will not be here at the afore-mentioned time, I will attempt to give you some idea of its characteristics by description—though I am not much versed in such matters.

First, its history. Sometime in January, 1844, the Hon. A. P. STONE and Lady, of Columbus, Ohio, together with Mrs. MATTHEWS and myself, on a remarkably mild day for that season of the

year, visited Mount Vernon, the former residence of WASHINGTON, and while wandering through the garden, I plucked quite a number of seed vessels from the great variety of Bourbon, Noisette, and Tea Roses which are there growing. These, on my return home in the spring, I planted, but not knowing how to manage them, but few vegetated. Of those that did grow, I gave away four the following season and retained two; one of the latter presents a very common appearance, and has never as yet bloomed; the other, which was a favorite from the first, showed great signs of being a very remarkable grower, and is now fully proved to be of vigorous and healthy habit. This plant has, for at least two seasons, thrown up shoots 16 to 18 feet in height. It is, I think, of the Noisette character, and for comparison in growth and appearance, more nearly resembles the *Lamarque*, than any other rose I am acquainted with, but is a much more vigorous grower; the leaves much larger, decidedly more ruddy and dark in hue, and very glossy and handsome; young wood of a very reddish cast, full of short rugged thorns, similar to *Lamarque*, but much more numerous; old wood, large, coarse and thorny; the roses *very large* and *very double*, and in colour a light, pure yellow, much deeper yellow than *Devoniensis*, perhaps, indeed, more the colour of *La Pactole* than any other I have seen, but *quite twice as large* as the latter named variety; the bud is shaped like the *Lamarque*, but is larger; the rose when expanded is also much larger. It is perfectly tea-scented, quite as fragrant as *Devoniensis*, and more fragrant than any other variety with which I am acquainted. These are the substance of its good qualities. It is tender, (like the *Noisette*) and will, if exposed to the winter, freeze, without protection. I laid it down last winter, and covered it slightly with earth, and as far as protected in this manner, it is perfectly sound, and from the young shoots coming out from the *old stock*, the roses are produced. I do not as yet know whether it will be 'perpetual.' Since this rose bloomed last year, (it then had two flowers only,) it has been my determination, should it prove a valuable acquisition to the rose family, (as I then thought and still think it may) to present it to you as my most intimate floricultural friend, and by you to propagate and disseminate it in whatever manner you please. The original plant has now fourteen good healthy buds, all of which will be expanded within a week or ten days. I have never given a cutting from it and will not do so if it will benefit you. These roses hang on in their perfection three days after expanded."

Under date of June 20th, I received the following from Mr. MATTHEWS in reply to some inquiries of mine:—

"In haste, I put up and directed to you according to your desires, a few branches and *one* rose of my seedling. This is the last of the blossoms, and of course inferior to the average. I also send you a shoot of last year's growth, two or three

shoots that have just borne roses, and a specimen of the growth of the present season. This rose has been the admiration of all who have seen it, being greatly preferred to all of my pretty large collection; and it fully realizes my most sanguine expectations. It is in my opinion one hundred per cent better than Lamarque."

With the rose and specimens of wood and growth before me, you must allow me to give you my opinion of this truly fine rose. *Chromatella* and *Solfaterre* are, I might say, pigmies in growth to this seedling. I have at this time a fine plant of *Solfaterre* and also of *Chromatella* in bloom, and I have made a careful comparison. In growth, flower and leaf, they are greatly inferior. This seedling flower is very much larger and much more double—the leaf far finer and half as large again. *Chromatella* is a better grower than *Solfaterre*, but bears no comparison with the seedling; the leaf of *Chromatella* is smaller and not so deep a green; that of *Solfaterre* is also much lighter in colour; the bloom of *Chromatella* is not so large as the seedling, although this was the poorest blossom on the seedling. The old growth of the seedling resembles more nearly the Beauty of Prairies, as regards thickness, thorns, bearing spurs, &c., than any rose I have in my collection; the under surface of the new leaves is very red, upper surface handsomely tinged with red; old leaves of the very deepest green. The cuttings of this season's growth sent me, are three feet long, and which I should judge to be only part of the growth of this spring; in thickness a little greater than a common pipe stem. The roses bloom at the termination of the first growth of the winter buds, and were in clusters of three and four upon the branches sent me. I send you one of the largest leaves upon this season's growth; the terminal leaves all have two small leaves (or stipules) at the base, which neither Lamarque, *Solfaterre* nor *Chromatella* possesses. As you may think that the largest leaf is not a fair criterion to judge from, I send you one of common size, and send it enclosed so that you may see the colour, if it does not dry up before you receive this. I also send one of the smallest leaves, all from the new growth of this spring's shoots sent me. As to its habit, think of a rose putting up shoots 16 to 18 feet in a season, the flower double, yellow and fragrant as any Tea Rose. Is it not an acquisition to the rose family? This rose will hereafter be known and designated by the name of "Augusta," in compliment to Mrs. MATTHEWS and her second daughter. Yours, with respect. A. Fahnestock. Lancaster, Ohio, July. 1849.

[This, judging from the foliage and the description of the flowers, is no doubt a valuable acquisition. ED.]

OSAGE ORANGE.—I wish to make a few inquiries, respecting the Osage Orange, as a hedge plant.

First: You say that it is hardy wherever the

Isabella grapes will mature in the open air. Will it also mature its seed in a location where the thermometer never falls more than four degrees below zero? (which is the case here, near the foot of Seneca lake.)

Secondly. Will it throw up distant suckers from the root?

Thirdly. I have understood that its wood is as durable as the Yellow Locust; and if so, why may it not be cultivated for its timber alone, in place of the Locust, which is injured by the borer?

Fourthly. In a location where both thrive equally well, which would you prefer, on the whole, for farm fencing purposes, the Osage Orange or the Buckthorn?

By answering the above queries, in the next number of the Horticulturist, you will much oblige several Farmers.

ANSWERS.—We have never known the seed of the Osage Orange to ripen north of New-York; but it is not unlikely that it may ripen in the mild climate of Seneca lake. Our correspondent is perhaps not aware that this tree, like many other forest trees, is *dioecious*; and hence, the male and female trees must stand near each other to get perfect seeds, though the fruit is freely produced by the female trees, even if growing alone.

It cannot be called a tree which *suckers*, in the common meaning of the term; but when the hedge stands in tilled land, where the roots are constantly broken by the plough, young shoots from the root will occasionally spring up—not so much as to become objectionable.

The wood is quite elastic, and was formerly much used by the Indians of Red river for bows. It is also said to be durable; but we have no data for judging of its value, as a timber tree at the north.

The Buckthorn is the hardest and "toughest" hedge plant we know,—growing in all soils and all exposures, and making a hedge with less care than almost any other plant; but unless well and regularly sheared, it is not so good a barrier as the Osage Orange, for the latter is particularly thorny. Both have their advantages. We should recommend the Buckthorn for cold latitudes, and the Osage Orange for warm ones. ED.

LEAF-BLIGHT.—Dear Sir: A communication, and a few observations from you, in the last number of the Horticulturist, on a subject to which I have given some attention for the last three years, viz., the leaf-blight on the pear tree, have induced me to ride into the country and examine the Oswego Beurré, and other bearing trees, on which I have observed this leaf-blight increasing for several years. I send you several leaves from the original Oswego Beurré, that bears this year a full crop, as it invariably has for about twenty years. You will be able to judge whether our leaf-blight is identical with that on the leaves sent you by Mr. HANCOCK. These leaves are about an average, as indicating the extent of the

blight on the entire foliage of this tree. Many other varieties, after long cultivation, are found to be affected in a similar manner here by the leaf-blight. Those that have the least culture are the most affected by this blight, which would go to sustain your position, that "It is undoubtedly owing to a want of specific food in the soil." But my observations here do not sustain the conjecture, that the spots on the fruit are a necessary consequence of the disease in the leaves. I find, and have found for the last three years here, that the Oswego Beurré, and many other varieties, have been more or less effected by the leaf-blight, while the fruit was entirely free from fungus or other spots or cracks.

The desiderata in relation to this leaf-blight in the pear, are its causes, consequences, and remedies. On these points may we hear more from you and your correspondents. On one point, I think my testimony may be given now; which is, that this leaf-blight, on a particular tree or branch of a tree, (for it often attacks some branches more than others,) has the effect to deteriorate the fruit of that particular tree or branch, both in size and quality. Is not this one great cause of many fine pears varying so much in quality?

I shall, "*Deovolente*," soon give you the result of my observations for several years in this locality, destined to be the great pear section of the states. Respectfully yours, *J. W. P. Allen. Oswego, N. Y., August 15, 1849.*

[This is the same leaf-blight known in this part of the country. It first makes its appearance on a few leaves, then gradually extends, and finally attacks the fruit. Whether it is a fungus or a blight, we shall perhaps be better able to speak after some microscopic examinations, now being made. But we are satisfied that its appearance indicates feebleness in the vital action of the tree; and we believe plenty of food and deep soil will prevent it. *Ed.*]

MULCHING GOOSEBERRIES.—The English gooseberry has always hitherto mildewed here; and I have been familiar with bushes of the best sorts for many years, without ever being able to gather any perfect fruit.

I have lately "mulched" some old bushes, which had heretofore borne this worthless fruit. I covered the surface of the ground under them a foot deep with wet, half rotten straw, extending this mulching as far as the branches grow.

Imagine my delight at finding the gooseberries on the bushes so mulched now ripening off finely,—the fruit twice as large as I have ever seen it before, and quite fair and free from mildew. Yours, *James C. Reed. Dalton, Ohio, July 2, 1849.*

THE GOLD MINES OF OHIO.—While so much is said about land in the world, and the evils of having too much, and the misery of many who have none, it may be an interesting problem to test the capacity of an acre of ground in Ohio to

support man or beast. In the Agricultural Report, made to the last legislature, there are some curious facts on this head. Some of the county agricultural societies distributed premiums to those who raised the largest crops. The following are the largest crops of corn reported. The measurement is of shelled corn:

Guernsey county—	3 acres, . . .	345 bush. 9 qts.
Hamilton "—	1 acre, . . .	159 " "
Harrison "—	3 acres, . . .	392 " 30 "
Mahoning "—	2 acres, . . .	202 " 7½ "
Union "—	1 acre, . . .	126 " 16 "

Total, 10 . . . 1,175 " 28½

Average per acre, 117 " 10

Let us now look into the price of cultivation on this land; that will show the difference between good and bad cultivation.

In the county of Harrison, the cost of cultivating three acres of land, (not the same as above) was \$19.37½, including the gathering of the crop. This the reader will say is enormous, being \$6.45 per acre. But let us see the result. The three acres produced 331½ bushels, which sold for 26 cents per bushel, a moderate price.

The account then stood thus:

Price of crop,	82 87½
Cost of cultivation, &c.,	\$19 37½

Nett profit, \$63 50

This land then brought \$21.50 per acre for a single crop! Or, take this view of it: It produced money enough to buy sixteen acres of government land, as good as itself! This is fairly and truly the profit of sixteen fold the original capital in a single crop!

Such crops are not common, but it is common to find fields of corn, with eighty bushels to an acre. This is a very common crop for bottom lands. The average crop of Indian corn in several counties in Ohio were—

Clermont,	45 bushels per acre.
Coshocton,	50 " "
Franklin,	50 " "
Darke,	50 " "
Greene,	50 " "
Guernsey,	45 " "
Miami,	65 " "
Richland,	35 " "
Ross,	45 " "
Seneca,	40 " "
Warren,	50 " "
Wayne,	35 " "

Average of 12 counties, 46½

This includes upland as well as lowland. These counties may be a little above the average of the state. Taking all the arable land in Ohio, cultivated in Indian corn, in the year 1848, and the average of the whole is not less than forty bushels per acre.

The average price of Indian corn, when raised, has been twenty-five cents per bushel. The ave-

rage value of the average crop is \$10 per acre. Estimating every hour's labor at its value in coin, supposing that the farmer or proprietor either does not labor, or is paid for his labor at a fair estimate, the average cost of cultivation is \$5 per acre. Deducting this from the total value of the crop, and there remains a nett profit on the land of \$5 per acre!

But the average value of corn land in Ohio, in the best counties, is not more than \$25 per acre. The result is that the nett profit or rental of corn land in Ohio, actually cultivated, is full 20 per cent. on the capital invested! But this is not all. The man, who actually himself farms his own land, on the Miami, or the Scioto (for example,) makes much more than this,—probably 30 and at least 25 per cent. on his capital, where the farm is not too large. In the first place he works himself, and receives the price of his own labor, instead of paying it out. In the next place he does not sell his corn, but feeds it to his pigs and cattle. In the last process he enriches his land, and gets more for his corn.

That the above results are accurate may be tested in another way. When land is rented, the tenant in Ohio does not, like one in Europe, expect merely to be paid for cultivation; but, on the contrary, expects to be paid a handsome part of the crops beside; or, in other words, to receive enough of the crops to answer both purposes. He expects, in one word, to progress as fast in accumulation as his landlord. As he puts in labor, and his landlord land into the common stock, or if they pay money, to estimate his labor at half the profits.

Now there are many lands on the great Miami, which rent from \$4 to \$6 per acre, money rent, and on the Scioto from \$2 to \$4. This may be estimated therefore, about half the nett profits of these lands. Or, in other words, \$10 on the best lands of the Miami, and \$6.50 of the Scioto, may be taken as the correct profit on the capital in lands, if the labor only of cultivation were paid for. There is a third mode of testing this very fact. We know that the lands there planted produce from 70 to 80 bushels per acre, which, at 25 cents per bushel, would be from \$17 to \$20 for the crop; the nett profits of which would be as we have above shown by the results.

Now, where is there any mercantile business, that will pay from year to year 20 per cent. *nett profit*? Where are there any gold mines that will pay it ten years successively?—*Cin. Atlas*.

FASTOLFF RASPBERRY—*Mr. Downing*: I have a single plant of this celebrated raspberry, which has borne *four quarts of berries* this season. More strictly, perhaps, I ought to say a single stool or bunch of plants; for though there was but one plant when I planted it, three years ago, it is now a large tuft or bunch of roots, all cemented together at the base. The whole plant is six feet high, and has been loaded with the largest

and most magnificent crop of raspberries I have ever beheld,—many of the berries measuring three and a half inches in circumference.

This is not to be taken, I am bound to say, as a fair specimen of the growth or product of this variety; though, after cultivating the best other sorts, I think it both the largest and the most productive.

In fact, this plant is only a *pet*, having had unusual care. It was planted in a bed, made 3 feet deep and 6 feet across, into which I put a bushel of *poudrette*. It has also had an occasional soaking with soap-suds. I mention it to show your amateur readers what may be done by extra care. Your obedient servant, *R. Boston, Mass., July 20, 1849.*

ANSWERS TO CORRESPONDENTS.

PEACH TREES.—*Andrews*, (Baltimore.) The specimens you have sent us prove that your trees have the *yellow*s. You had better dig them all up at once, burn them, and send to some nursery where the *yellow*s is not known and get a stock of healthy trees. Some nurserymen pay no attention to getting the stones of healthy trees for stocks, and therefore all trees which they bud on, inherit the *yellow*s; and though it may not appear so long as the tree remains in the nursery, it is certain to do so after the trees have borne a couple of crops. There is no reason why a peach tree should not continue in good health and have good crops for 25 years, if it has a healthy constitution and is properly pruned.

ROOT-PRUNING.—*A Hartford Subscriber*. Your elm, the roots of which interfere with the culture of the ground under it, may be root-pruned, but the roots cannot be shortened more than a couple of feet without impairing the luxuriance of the tree. Lime should never be applied except after it has been slacked so long as to lose its caustic qualities.

PRUNING ROSES.—*A Novice*, (Trenton, N. J.) The Lady Banks rose produces its flower on one year old wood. Your plant, therefore, did not bloom, because you cut off all the shoots that would have bloomed when you pruned it early in the spring. You should prune it at mid-summer; it will then bloom abundantly.

The same remark applies to *Felicete Perpetuelle*, and one or two other climbing roses.

SUMMER-GROWN BUDS.—*A. P.*, (Cincinnati.) We do not think well of the practice of allowing the buds to put out shoots the same season they are inserted. Such growth is generally feeble and spongy. It is much better to leave the top on the stock after budding it, till the following spring. The bud will then remain dormant till spring, when it will make a sound and healthy growth.

TOMATOES.—*A New Subscriber*, (Plymouth.) If you cut off the tops of your tomatoe plants (yet

full of fruit,) close to the ground, before you have any frost, and lay them in an empty hot-bed frame, cover them with the glass, and keep them closely covered day and night, the fruit will gradually ripen for six weeks, and prove excellent.

SICKLY TREES.—*W. Jones*, (New-York.) Your orange and lemon trees, from your account of them, are suffering from unsuitable soil. Turn them out, shake off all the loose earth, and re-pot them in a mixture (equal parts,) of *burnt sods* and decomposed manure; (that from an old hot-bed will answer.)

IMPORTING PLANTS.—*A Young Nurseryman*. You will seldom succeed in importing strawberries, or any plants which have not hard wood, in the spring. If you will order them sent out in October, on the other hand, they will seldom fail.

NEW SHRUBS.—*A. R.*, (Philadelphia.) The two best new shrubs are *Wiegela rosea* and the double Japan spirea; both perfectly hardy in our

garden, and both very handsome. The blossoms of the former are of the size of a shilling, and open of a delicate apple blossom colour, changing to a deep pink or rose. The finest, most mossy looking shrub, for your purpose, is the Tartarian upright Honeysuckle.

PACKING FRUIT.—*F. W.* Pack your fruit in cotton; and, if very delicate, wrap tissue paper about each specimen first. Nothing spoils the bloom, beauty, and flavor of fine fruit so much as bad packing; and we have had many a box of choice specimens so spoiled that we could give no account of it, simply from its having been packed in *saw-dust*.

* * Correspondents, who are subscribers, will receive answers to any queries through this channel, unless in special cases when otherwise requested; and all queries requiring an early answer, must be received before the middle of the month.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this association was held in the Chinese Saloon on Tuesday evening, August 21, 1849—the President in the chair. The display presented many attractions, and in the department of fruits was very rich,—especially so in grapes and nectarines. There was one collection of grapes from the Institution of the Ladies of the Sacred Heart. *W. Westcott*, gardener, consisting of Black Hamburg, White Frontignan, and White Chasselas; the three bunches of Hamburg each respectively weighing 2 lbs. 6½ ounces, 2 lbs. 6 oz., and 2 lbs.—the berries being of very large size. Another collection by *H. W. S. Cleveland*, Burlington, of the Black Hamburg, and White Sweetwater, were very weighty and of fine size. A bunch of White Syrian, from Judge Kane's green-house, weighed 2½ lbs. A large bunch of fully ripe Isabella, with large berries, was shown by *A. L. Felten*. The early Violet nectarines, by *Joshua Longstreth's* gardener, were beautiful in appearance and size; and the collection of the President consisted of the New White, Vermash, Elruge, Old White and Down-ton varieties; one fruit of the last named measured eight inches in circumference.

A basket of Washington Bolmar plums were very large and delicious, exhibited by *Robert Johnson*; and a number of dishes of other varieties of less merit. There were also Bartlett, St. Julienne pears, peaches, apples and Corrollian cherries; and several tables of plants in flower, of great attraction, and one of indigenous, of much interest; and a number of designs and bouquets, of handsome construction and choice flowers.

The committees reported the following awards: For the best hot-house plants, to *James Bisset*, gardener to *James Dundas*; for the second best hot-house plants, to *B. Daniels*, gardener to *C. Cope*. For the best green-house plants, to *Robert Buist*; for the second best green-house plants, to *B. Daniels*. For the best plants in pots, to *Maurice Finn*, gardener to *John Lambert*; for the second best plants in pots, to *B. Daniels*; for the third best, to *David Scott*, gardener to *Fred'k Lennig*. For the best indigenous plants, to *Robert Kilvington*. For the best design of cut flowers, to *Maurice Finn*; for the second best design, to *James Bisset*. For the best indigenous bouquet, to *R. Kilvington*. For the best basket of cut flowers, to *Robert Kilvington*; for the second best basket, to *Maurice Finn*. For the best basket of indigenous flowers, to *Robert Kilvington*.

For the best three bunches of grapes—black variety, the Black Hamburg, to *Wm. Westcott*; for the second best—the Black Hamburg, to *H. W. S. Cleveland*. For the best white variety—the White Chasselas, to *Wm. Westcott*; for the second best—the White Sweetwater, to *H. W. S. Cleveland*. For the best nectarines—the Early Violet, to *P.*

Burke, gardener to *Joshua Longstreth*; for the second best—the Down-ton, to *Ben Daniels*. For the best plums—the Washington, to *Robert Johnson*; for the second best—the Washington, to *Mrs. Jno. B. Smith*; for the third best—Green Gage, to the same. For the best peaches, to *John Perkins*; for the second best, to *Isaac B. Baxter*; for the third best, to the same. For the best pears—Julienne, to *Thos. Hancock*; for the second best—same kind, to *John Perkins*; for the third best—the Bartlett, to *H. W. S. Cleveland*. For the best apples—Summer Pearmain, to *John Perkins*; for the second best—Strawberry, to *Thos. Hancock*; for the third best—the Maiden's Buss, to *John Perkins*.

The committee particularly notice some extraordinary fine Isabella grapes, by *A. L. Felten*, grown in the open air,—the berries rivaling in size the Black Hamburg, for which they award a special premium of one dollar. They also notice a large bunch of white Syrian grape, from the garden of *Judge Kane*.

For the best display, and the second best display of vegetables, by market gardeners, to *Anthony Felten*; for the best display by amateurs, to *Ben Daniels*; for the second best display by amateurs, to *Maurice Finn*.

A circular, from the North American Pomological Convention, was received by *Dr. Brinckle*, and read, conveying an invitation to the society, to send delegates to attend the convention to be held at Syracuse.

On motion, ordered, that the invitation be accepted, and delegates be appointed. The President appointed *Messrs. Dr. W. D. Brinckle, E. W. Keyser, Rob't Buist, Thos. Hancock and T. P. James*.

The corresponding secretary communicated an invitation from the New-Jersey State Horticultural Society, inviting this society to send delegates to their autumnal exhibition.

The President announced that *J. R. Ingersoll* had presented the following very valuable books, and large map: Report of the Patent Office U. S., 1849; New-Mexico and California, by *Emory, Abert, Cooke and Johnston*; and Map of the Military Reconnoissance, by *Col. W. H. Emory*, under *Gen. Kearny*.

On motion of library committee, ordered, that the thanks of the society be tendered to the donor, and the books be placed in the library.

The secretary announced the present of a valuable volume, the Transactions of the New-York State Agricultural Society, through *B. P. Johnson*, secretary.

On motion of the library committee, ordered, that the thanks of the society be tendered for the valuable prize, and the volume placed in the library.

THOS. P. JAMES,
Rec. Secretary.

MASSACHUSETTS HORTICULTURAL SOCIETY.

BUSINESS MEETINGS.

August 4, 1849.—President SAMUEL WALKER in the chair.

On motion of Mr. C. M. HOVEY, the following votes were passed:

Voted, That the members of the Mass. Horticultural Society having learned, with feelings of the deepest regret, of the death of their respected fellow citizen, the Hon. THEOPHORE LYMAN, an honorary member of the association, and the munificent donor of a liberal sum for the promotion of the objects of the society, therefore

Voted, That in the sudden death of Mr. LYMAN, the community have sustained a severe loss, and the Massachusetts Horticultural Society one of its most ardent and enthusiastic friends. Deeply interested in all that pertains to the cultivation of the earth, and endowed with a true taste for landscape beauty, his example, as evinced in the arrangement of his own elegant grounds, had a high influence in disseminating a love for horticultural pursuits.

Voted, That the society sympathise with the family of Mr. LYMAN, in their afflictive bereavement, and respectfully tender their condolence.

Voted, That the above be placed upon the society's records, and a copy of the same be transmitted to the family of Mr. LYMAN, by the Corresponding Secretary.

The following gentlemen were elected members of the society:—Peter Smith, Andover; George T. Blake, Henry B. Stanwood, Boston; H. Selimning, Watertown; Henry Poor, John P. Goddard, Boston.

August 18, 1849.—President SAMUEL WALKER in the chair. A copy of the 5th volume of the "Transactions of the N. Y. State Agricultural Society," was received, and the thanks of the society were voted.

Voted That the use of the society's library room be granted to the trustees of the Norfolk Agricultural Society every Saturday, from 9 till 11 o'clock, A. M., until the annual exhibition

EDWARD C. R. WALKER,

Recording Secretary.

Exhibition of Saturday, August 11, 1849.

FLOWERS—From M. P. Wilder, a fine display of perpetual Roses, Phloxes and Lilium Japonicum.

From Parker Barnes, Gladiolus floribundus, G. Gandivensis, Dahlia Privetere, fine, Phloxes, Sempervivum, Hollyhocks, Veronicas, Didiscus, &c.

From J. Breck & Co., Hollyhocks, fine, Phloxes, Bignonia, Rudbeckia, Ditsia, Balsams, fine specimens of the 2d blooming of Wisteria conigua.

From John Hovey, Bouquets and Balsams.

From A. Bowditch, Bouquets

From James Nugent, Balsams, Phloxes, Pavonia, Lilium japonicum, and Bouquets, &c.

From H. B. Crooker, by Thomas Needham, Balsams very fine, Phloxes, Liliums and Dahlias.

From Hovey & Co., Phloxes and Gladiolus floribundus, G. Gandivensis.

GRATUITIES RECOMMENDED—To J. Breck & Co., Cut Flowers, \$1
To Parker Barnes, Cut Flowers, 1
To M. P. Wilder, Phloxes and Roses, 2
To James Nugent, Bouquets, 1
To John Hovey, Bouquets, 1

To A. Bowditch, Bouquets, 1
To Messrs Winslip, Mantel Bouquets, 1
DAVID HAGGERSTON, Chairman.

PRIZES AWARDED—Balsams, for the best display:—To Thomas Needham, 1st prize, \$3
2d best display, James Nugent, 2
3d do. do., to Breck & Co., 2
PARKER BARNES.

FRUITS—From E. M. Richards, Melon, Christiana. From Francis Dana, Seedling Plum, from C. Stearns. From B. V. French, Apples, Currants, red and white, cultivated Blackberries, very fine. From C. E. Grant, Blackberries, very fine. From A. D. Weld, Pears, Sugar Top. From J. F. Allen, Grapes, Whalley Hall Seedling, Peaches, very fine, Nectarines.

From Azel Bowditch, Grapes, Black Hamburg. From A. H. Ernst, Cincinnati Apples, Summer Queen. From Otis Johnson, Grapes, White Muscat of Alexandria, very fine, Black Hamburg, White Frontignan, fine, Zinfandel, fine, Blackberries, very fine, Pears, Citron des Carnes, Figs, Black Pig of St. Michaels.

From James Nugent, Grapes, White Sweetwater and Black Hamburg.

From Messrs. Hovey & Co., Grapes, Black Hamburg, August Muscat, Macready Early White, Muscat Jesus, Muscat of Alexandria, very fine, White Frontignan, very fine, Chasselas of Fontainebleau, Red Chasselas, Muscat Blanc Hatif, Grizzly Frontignan, very fine, Chasselas Bar Sur Aube, Peaches, Jacques Superior.

From Galen Merriam, Blackberries, very fine. From H. R. Morse, Apricots, Moor Park, very fine. From J. Hovey, Apples, Early Harvest, very fine, Plums. From W. W. Wheelton, Concord, Melons, open ground culture.

From W. A. Strong, Grapes, Black Hamburg, fine, Plums, Bolmar Washington. (?) JOSEPH S. CABOT, Chairman.

FRUITS TESTED—Seedling Cherries from Henry Vail, Esq., Troy. These cherries were somewhat decayed, and the committee could not so well judge of their quality; but from their being so late, and said to be an abundant bearer, the cherry promises to be a valuable acquisition. The committee would be happy another season to farther test their quality.

Seedling Plum, from Francis Dana. The committee would prefer to wait another season before expressing an opinion.

Grapes. Grizzly Fontainebleau, From Hovey & Co., a round, well-coloured, dark Grape, of good quality.

Christiana Melon, from Mr Richards, fine.

White Frontignan Grapes, from O. Johnson, fine.

Peaches called Jacques, from Hovey & Co., large, well ripened and very fine indeed. JOSEPH S. CABOT, Chairman.

VEGETABLES—From W. W. Wheelton, Egg Plants and Canada Squashes.

From A. D. Williams, Tomatoes, and Chenango and Early White Potatoes.

From N. Green, by J. McGinnis, one Manchester Prize Cucumber.

From Obad Baker, one root of Herd's Grass, with 174 spires, and 4 feet high, a most extraordinary production.

A. D. WILLIAMS, Chairman.

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JOURNAL OF RURAL ART AND RURAL TASTE.

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OCTOBER, 1849.

No. 4.

EDITOR. We find you, as usual, in your kitchen garden. Admirable as all the rest of your place is, your own fancy seems to centre here. Do you find the esculents the most satisfactory of your various departments of culture?

SUBSCRIBER. Not exactly that; but I find while the shrubbery, the lawn, the flowers, and even the fruit trees, are well cared for and made much of by my family and my gardener, the kitchen garden is treated merely as a necessity. Now, as I estimate very highly the value of variety and excellence in our culinary vegetables, I take no little interest in my kitchen garden, so that at last it has become a sort of hobby with me.

ED. We see evidences of that all around us. Indeed, we scarcely remember any place where so large a variety of excellent vegetables are grown as here. Artichokes, endive, sea-kale, celeriac, winter melons and mushrooms, and many other good and rare things, in addition to what we usually find in country gardens.

SUB. And what a climate ours is for growing fine vegetables. From common cabbages, that will thrive in the coldest climate, to egg plants, melons and tomatoes, that need a tropical sun,—all may be so

easily had for the trouble of easy culture in the open air; and yet, strange to say, three-fourths of all country folks, blessed with land in fee simple, are actually ignorant of the luxury of good vegetables, and content themselves with potatoes, peas, beans and corn; and those, perhaps, of the poorest and least improved varieties.

ED. Still, you cannot say we stand still in these matters. Almost every year, on the contrary, some new species or variety is brought forward, and, if it prove good, is gradually introduced into general cultivation. Look at the tomato, for instance. Twenty years ago, a few curious amateurs cultivated a specimen or two of this plant in their gardens, as a vegetable curiosity; and the visitor was shown the "love apples" as an extraordinary proof of the odd taste of "French people," who outraged all natural appetites by eating such odious and repulsive smelling berries. And yet, at the present moment, the plant is grown in almost every garden from Boston to New-Orleans; may be found in constant use for three months of the year in all parts of the country; and is cultivated by the acre by all our market gardeners. In fact, it is so popular, that it would be missed next to bread and potatoes.

SUB. Quite right; and a most excellent and wholesome vegetable it is. It is almost unknown in England, even now; and, indeed, could only be raised by the aid of glass in that country,—a proof of how much better the sun shines for us than for the subjects of her majesty, across the Channel. But there is another vegetable which you see here, really quite as deserving as the tomato, and which is very little known yet to the cultivators in the country generally. I mean the okra.

ED. Yes. It is truly a delicious vegetable. Whoever has once tasted the “gumbo soup,” of the south, of which the okra is the indispensable *material*, has a recollection of a good thing, which will not easily slip from his memory. All over the southern states okra is cultivated, and held in the highest esteem.

SUB. And there is no reason why it should not be equally so here. Except to the north of Albany, it will thrive perfectly well, and mature an abundance of its pods, with no trouble but that of planting it in warm rich soil. See what a handsome sight is this plat, filled with it, though only 10 yards square,—rich, luxuriant leaves, blossoms nearly as pretty as an African hibiscus, and pods almost as delicate and delicious as an East India bird’s nest. It has kept my family in materials for soups and stews all the season, to say nothing of our stock for winter use. And besides being so excellent, it is, do you know, the most *wholesome* of all vegetables in summer.

ED. We know its mucilaginous qualities seem intended by nature to guard the stomach against all ill effects of summer temperature in a hot climate. How do you account for its being so little known, though it has been in partial cultivation nearly as long as the tomato?

SUB. From the fact that inexperienced

cooks always blunder about the proper time to use it. They pluck it when the pod is two-thirds grown and quite firm, so that it colours the soup dark, and all its peculiar excellence is lost. Whoever gathers okra should know that, like sweet-corn, it must be in its tender, “milky state,” or it is not fit for use. A day too old, and it is worthless.

ED. You spoke just now of okra for winter use. As your *ménage* is rather famous for winter vegetables, we must beg you to make a clean breast of it to-day, since you are fairly in the talking mood, and tell us something about them. Begin with okra, if you please.

SUB. Nothing so simple. To prepare most vegetables is, by the aid of our plentiful hot, dry weather, as easy as making raisins in Calabria. You have, for instance, only to cut the okra pods into slices or cross cuts, half an inch thick, spread them out on a board, or string them, and hang them up in an airy place to dry, and in a few days they will be ready to put away in clean paper bags for winter use; when, for soups, they are as good as when fresh in summer.

ED. At what age do you take the pods for drying?

SUB. Exactly in the same tender state as for use when fresh.

ED. And the delicious Lima beans which you gave us—when we dined with you last Christmas Day—as green, plump, fresh and excellent as if just taken from the vines?

SUB. That is still easier. You have only to take the green beans and spread them thinly on the floor of the garret, or an airy loft; they will dry without farther trouble, than turning them over once or twice. To have them in the best condition, they should be gathered a little younger

than they are usually for boiling in summer. Lima beans are so easily grown and prepared for winter use, and are so truly excellent, that my family usually dry enough for use every other day all winter; and they are so fresh and tender (being soaked in warm water for 12 hours before cooking,) that I have frequently some little difficulty in persuading my guests at a dinner in the holidays, that I have not a forcing house for beans, with the temperature of Lima all winter.

ED. That is an easy and simple process, and its excellence we well know from experience. But, best of all, and most rare of all, is the tomato, as we have eaten it here, in mid-winter. As we have seen many trials in preserving this capital vegetable for winter use, nearly all of which were partly or wholly failures, pray let us into the secret of your tomato formula, which we promise not to repeat to more than eight or ten thousand of our particular friends and readers.

SUB. You are heartily welcome to tell it to twenty thousand. It is a real discovery for the gourmand in winter, who loves the pure, genuine, unalloyed and delicious acid flavor of the *Solanum Lycopersicum*, and knows how greatly it adds to the piquancy of a beef-steak, done to a second, and reposing, as CHRISTOPHER NORTH would say, in the mellow richness of its own brown juices.

ED. Do't grow so elegant over the remembrance as to forget the *modus operandi* of drying. Remember we must stake our reputation on its being equal to the genuine natural berry, when it is of the colour of cornelian, and plucked in the dew of a July morning.

SUB. I remember. First,—gather the tomatoes.

ED. When?

SUB. When they are quite ripe, least full of water, and most full of the tomato principle; that is to say, in sunny weather in July or August. If you wait till September, or, rather, till the weather is so cool that the fruit is watery, you will fail in the process, for want of flavor.

ED. Go on.

SUB. Choose tomatoes of small or only moderate size. Scald them in boiling water. Next,—peel them, and squeeze them slightly. Spread them on earthen dishes, and place the dishes in a brick oven, after taking the bread out. Let them remain there till the next morning. Then put them in bags, and hang them in a dry place.

ED. That is certainly not a difficult process, and may be put in practice every baking day by the most time-saving farmer's wife in the country. And the cooking?

SUB. Is precisely like that of the fresh tomato, except that the dried tomato is soaked in warm water a few hours before hand. For soups, it may be used without preparation; and a dish of this vegetable, dried in this way and stewed, is so exactly like the fresh tomatoes in appearance and flavor, that he must be a nice connoisseur in such matters who could tell in what the difference consists.

ED. We can vouch most entirely for that; and after thanking you for the detail, have only to regret that we could not have published it in mid-summer, so that all our readers could have had a fine dish of tomatoes when the thermometer is down below zero.

SUB. By steadily pursuing the tomato drying every baking day in July and August, we get enough to enable us to use it freely, and even profusely, as a winter vegetable; not as an occasional variety, but a good heaping dish full very often.

ED. What is to be done with these small green melons which I see your man gathering in his basket? It is so late now that they will not ripen, and they are the perquisites of the pigs, doubtless.

SUB. You never made a greater mistake. For the pigs! Not if they were Westphalia all over. Why, that is the most delicious vegetable we have, at this season of the year. "Butter would not melt in your mouth" more quickly than that vegetable, as you shall have it served up on my table to-day.

ED. Pray, what do you mean?

SUB. That these tardy after-crop muskmelons, trampled under foot and fed to the pigs, are the greatest delicacy of the season.

ED. *Fricaseed*, I suppose; or "cut and dried," for winter use!

SUB. By no means; but simply cut in slices, about the fourth of an inch thick, and fried exactly in the same manner as egg plants. Whoever tastes them so prepared, will immediately make a memorandum that egg plants are thenceforward *tabooed*, and that melons, "rightly under-

stood," are as melting and savory in their tender infancy, as they are luscious and sugary in their ripe maturity.

ED. We shall be glad to put it to the immediate proof. But we must bring this talk to a close, or we shall be suspected of having lost all taste but the taste for the flesh pots of Egypt.

SUB. But not till I have shown you my plat of "German greens," all growing for use next March, and my fine Walcheren cauliflowers, planted late, and which I shall "lift" at the first smart frost, and carry them into the cellar of my outbuildings, where they will flower and give me the finest and most succulent of vegetables all winter long, when my neighbors have only turnips and Irish potatoes. But you have taught the public how to manage all this in the previous numbers of your journal, so that I find every one begins to understand that it is as easy to have fine cauliflowers at Easter as Newtown Pippins. And now let us end this gossip and take a turn in the orchard, where I must show you my Beurrés and Bergamots.

ON THE SUMMER TREATMENT OF GREEN-HOUSE PLANTS—NO. II

BY R. B. LEUCHARS, NEW-HAVEN, CT.

WATERING.—Much of the success attending the operations of gardening, depends upon the wisdom exercised in using means adapted to the circumstances of the case. The intense solar heat, which has prevailed for some time past, is no doubt calculated to make us give up plant growing in despair; and many of us have had enough to do lately to keep our plants alive, without sitting down to write a long article about the particular methods we adopted for doing so. I am very certain,

however, that a great deal of the water carried lately, has been so much labor thrown away. Of this fact, I have fully satisfied myself by every day's observation. Daily *dribblings* of water do little good, (if not injury,) to plants thoroughly exposed to the sun's rays, whether in pots or in the open ground. Surface roots are encouraged, only to be killed when the sun dries off the surface moisture. The ground becomes crested, and is rendered impervious to atmospheric action; and not in one

case out of fifty do the spongioles absorb one single drop of the moisture so applied. This argument bears more strongly upon sandy soils, which contain but a small quantity of organic matter; and hence, a proportionately small amount of water is chemically combined. It is best retained mechanically among the pores of the surface earth, until it is carried off by evaporation.

When water is applied to the plants and trees, growing in the open ground, it ought to be done thoroughly, and done but seldom; and if a good soaking cannot be given them, the better way will be to let them alone. Stirring the soil somewhat deeply will let the water more readily to the roots; and stirring the surface gently the day after watering, will prevent the moisture from being drawn off so rapidly by the sun's rays. The roots will also be kept cooler, because the rough surface will present an impediment to the transmission of the heat downwards.

There is some difference of opinion among practical men, regarding the proper time for watering plants. Some prefer the morning, others the evening, and both parties present very plausible arguments in their favor. But I think the great majority of people, by a sort of general consent, adhere to the system of watering at night; without, however, having any very well determined notions whether it is right or wrong,—doing it just because everybody else does it,—each person taking the example of his neighbor as a very good reason why he should do it himself. We have, indeed, some reason to suppose that evening watering is preferable to that of the morning, because the atmosphere then becomes moister, by the descension of the vapors which have been drawn up, and suspended in the air by the heat of the

sun. The moisture is thus received more gradually into the system of the plants. My own experience, however, has induced me decidedly to prefer the morning watering; and I think I may say that scientific men are for the greater part in favor of this method, especially in periods of long continued drouth, in light, silicious or sandy soils.

One of the principal objections to watering in the evening is cooling the surface excessively, and chilling the roots of the plants. Nothing is more injurious to vegetable, as well as to animal life, than rapid changes of temperature. And this must be produced by the application of water 50° or more below the temperature of the earth in which the plants are growing. The difference is sometimes much greater, when no care is exercised in modifying the temperature of both. In the moist climate of northern Europe, and some other parts of the globe, where the number of rainy days exceeds dry ones, this circumstance has less influence on vegetation, because the temperature of the surface soil seldom exceeds the lower stratum of air. But under our scorching sun, the fact is different, and is perceptible to the most unobservant individual, and the cause is obvious; for here the temperature of the soil frequently rises from 10° to 20° above the superincumbent atmosphere. The wilted appearance of our vegetables, and the stunted growth of our trees, is not owing to the excessive heat of the atmosphere, but rather the excessive heat of the soil, and the absence of moisture; and hence, we need not exercise our energies in reducing the temperature of the atmosphere by evaporation from the soil, but rather in reducing the temperature of the soil by the absorption of moisture from the air and otherwise.

Among the means in our power of modifying the excess of terrestrial heat, I would mention, first, by giving the soil the capacity of *containing* and *retaining* moisture. This is done most effectually by adding loam, clay, and peat, (or muck, as it is called here.) These soils not only absorb moisture in the greatest quantity from the atmosphere, but suspend it in their pores for the greatest length of time. Moreover, the organic matter they contain combines with the water quickly, and supplies food to the plants. Secondly, rendering the soil capable of supplying itself with moisture by capillary power. To effect this, we must trench deep,—2, 3, 4, or 6 feet. No matter how deep we go, providing we keep the best soil always on the surface. All substrata contain a large amount of water, and sandy strata, on impermeable beds, generally the greatest, as they absorb the water more quickly when it falls. By deep trenching, the subsoil is opened up; and when dry weather comes upon us, with its attendant evils, then, by capillary action, this water rises from beneath, bringing with it the soluble substances that exist in the subsoil through which it ascends. On this point Johnston remarks: that in sandy soils, and generally in all light soils, of which the particles are very fine, this capillary action is of great importance, and is intimately connected with their power of producing remunerating crops. They absorb the falling rains with great rapidity; and these carry down the soluble matters as they descend. On the return of dry weather the water re-ascends from the lower strata, and again diffuses the soluble ingredients through the upper soil.—[Johnston's Ag. Chem.] Thirdly, by the artificial application of water; and by its general applicability to the culture of ornamental plants, this method more particu-

larly demands our attention. But whether the plants be growing in flower-pots or in the flower-garden, we cannot treat on the subject of watering without, at the same time, considering the nature of the soil in which the plants are growing. The power of soils is so different of absorbing and retaining water, that it ought to be the first business of a plant-grower to procure that which is most suitable. We know that the best soil for soft wooded plants, is that which contains the largest quantity of decomposing matter; and we know, also, that the coolness of a soil is just in proportion to the moisture, or rather the organic matter, it contains. This is sensibly the case; for the sandy and gravelly soils, which are the hottest, are also the driest, and on that account also retain their heat the longest. It has been said by some authors, that dark coloured soils absorb heat from the sun's rays more rapidly, and attain a higher temperature than soils of other colours. But this will only be found to be the case when both soils are chemically alike, and this is seldom, if ever, the case; for the amount of organic matter which black soils generally contain, more than counterbalances their superior power of absorbing heat; and they will frequently be found 10 or 12 degrees below the temperature of sandy soils, immediately beside them. On the 23d of last month, I placed the bulb of a thermometer 6 inches below the surface, in the soil of a border, made up of black peat earth, clay, and a quantity of manure, mixed together,—the black soil predominating, and giving its colour to the whole. After remaining an hour, the mercury rose only to 93°. On the same border, a few feet distant, in the common soil of the garden—rather light and sandy—at the same depth, the thermometer rose in a few minutes to 104°; a

difference of eleven degrees, which I accounted for by the retention of moisture in the black soil. At the same time, the lower stratum of air was 91° ; nearly as hot as the black soil. In a number of subsequent trials, I have never found the mercury to rise above 90° in the black, and 101° in the sandy soil. On the day above mentioned, the water in two different wells in the garden stood respectively at 50° and 56° . I have known the water of deep wells even colder than this; yet, regularly supplied to thirsty plants after a hot day. This has much the same effect upon plants as drinking excessively of cold water has upon the animal system.

The flaccid appearance of plants in a hot day evidently shows that the evaporation from them by their leaves, is too great for the supply of moisture they draw from the earth by their roots. The vital energies of the plants are virtually suspended. To speak analogically, the plants are in the hot, dry paroxysm of a fever; and the absorption of a liquid 50 degrees below the temperature of its own fluids is, to say the least, of very doubtful propriety, and in violation of any law with which physiology has yet made us acquainted. Thirsty plants possess the power of absorbing moisture almost as soon as it is placed within reach of their roots or leaves. In some plants, that are translucent, the ascent of a coloured fluid is immediately perceptible. As much of the fluid is absorbed as the plant is capable of suspending for the time into its vascular system, whether the fluid so absorbed be nutritious or deleterious to its vital existence.

I have digressed thus far from my text, for the purpose of illustrating more plainly the physical relations which various soils and water have to each other; for unless we know how these bear upon each other

in the open garden, it is impossible that we can succeed in any systematic course of cultivation in pots; for although we have more control over them, they are also more dependant upon our care and wisdom for the essentials of their existence. Plants kept in a green-house during summer, may be watered any time of the day. I prefer watering about noon. But the water should be exposed to the atmosphere for a few hours before it is used. The plants, of course, must be thoroughly shaded by a rolling blind. But I prefer the early part of the morning for all plants that are not in the house. About this time, the earth and the atmosphere are beginning to lose the moisture they received by condensation the previous night; and as the leaves absorb moisture generally by their under surface, we thus supply them with it, by the exhalations of this water during the day; and thus we are in some measure able to modify the excessive changes of temperature which, in my humble opinion, is one of the greatest ills to which vegetation is heir, and which has been abundantly exemplified in the spring that is past.

The subject of watering is one of the greatest importance, and ought to be duly and deeply considered by practical men. The mind of a gardener must be continually active, to be successful in his pursuits; and none, however extensive or limited his charge, can exempt himself from mental as well as physical exertion. In our profession, the mind is truly the standard of the man. And as we advance in mental culture, we unconsciously discover that the "power of knowledge" is not a mere figure of speech, nor an empty sound. It makes difficulties disappear, which before seemed unsurmountable; and it enables us to show that the crude elements of a working man's nature are as susceptible of arrangement,

of improvement, and of polish, as the highest on earth; and it manifests to us an unmistakeable fact,—that Dame Nature supplies us with no apology for remaining ignorant of those simple lessons which she teaches to all.

In green-house collections, we frequently find gardeners bestowing much care and admiration upon those subjects that are not only worthless in themselves, but ill adapted for the place and period in which they are made to appear. I do not wish to find fault with any one for throwing a halo of novelty round a favorite plant, however inferior it may be, when he has had no opportunity of knowing better. But I think it advisable that we ought to direct our attention to those plants that accommodate themselves most willingly to the circumstances in which we place them; and of these, there are more than abundance to afford continual successions all the year round. Hundreds of the finest flowering plants, for the summer adornment of green-houses and conservatories, are now in the

nurserymen's collections, and are comparatively unknown. The nurserymen of America are far ahead of the gardeners, and of the amateurs too, at least in plant culture; for they are annually importing the newest and rarest plants, and have but little compensating return. The fault lies generally with the gardeners, and not with the amateurs; for many of the loveliest objects of Flora's kingdom will not bloom in the open air in New-England, nor bear the burning rays of our scorching sun; and almost every person has experienced the difficulty of keeping plants healthy in a dwelling-house, even for a few weeks together. I shall not here enter into the cause. It is sufficient to state the fact; and to say that a remedy can be found in a well managed green-house, which should be adjoining the chief apartments of the dwelling-house. Here the plants can be properly attended to, and afford the highest gratification to the family, without injury to themselves.

R. B. LEUCHARS,

Gardener to Prof. Silliman.

New-Haven, Ct., August, 1849.

NOTES ON FOREIGN GRAPES AND OSAGE ORANGE HEDGES.

BY ROSWELL L. COLT, PATERSON, N. J.

DEAR SIR—In your September Horticulturist, I observe some remarks from Professor TURNER on grape culture.

I have tried faithfully, and expensively, the raising of European grapes by open culture. No one could have taken more pains, or have had a better position for their growth than I have,—a gravelly hill, facing due south, protected from north winds, with a gentle slope of 30 feet descent. This I trenched 3 feet wide, 3 feet deep, and filled the border with bones, old leather, oyster shells, old mortar, and broken

brick, 2 feet deep; then 1 foot with a rich compost of turf, virgin earth, slaughter-house manure, charcoal dust, and wood ashes. In this I planted 700 vines, of the best eating European varieties, in rows running north and south, 6 feet apart each way, and trained them on a wire trellis 5 feet high.

The first year they bore I had some fine grapes, and took the first premium at the New-York Institute for grapes by open culture. The next year I had fewer grapes in quantity, and poorer in quality. The

third year they fell off still more. The fourth year, entirely worthless; and I have dug them up. I ought to have said I had the power to water at pleasure, from running water on the top of the hill. This only confirms what my friend S. G. PERKINS, Esq., of Boston, predicted to me. But in my various experiments on grapevines, I find that a large dressing of wood ashes is decidedly beneficial; and my grapes this year, in my vinery, are decidedly of better flavor, and better colour, for this treatment. I ought to say, that at the same time I have twice watered them, with a decoction of potash dissolved in water, say 10 lbs. of ashes to 20 gallons of water.

I find you have several times been asked if the Osage Orange succeeds as far north as this, in making a good hedge. All I can say is, I have tried it for five years,

and have never lost a plant by winter frost or summer drouth; and that if one can spare the ground for the spread of the roots, a handsomer or better hedge cannot be wished for. The Osage Orange cannot be propagated by cuttings, or, at least, I have not succeeded; but the roots, which extend 10, 12, or I know not how many feet, if cut into lengths of 8 inches, will send up shoots that grow luxuriantly.

Yours, &c., ROSWELL L. COLT.

Paters. n., Sept. 10, 1849.

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[Mr. Colt's experience with foreign grapes in the open air precisely corresponds with that of every other trial in our knowledge. The evil, no doubt, lies in the *climate*, since nowhere are more delicious or finer grapes grown than in vineries in the northern states. ED.]

REMARKS ON BARK-BOUND CHERRY TREES.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

IN the last February number of the Horticulturist appeared an article from Prof. TURNER, of Illinois college, upon the disease of the cherry tree; attributing it almost entirely to the trees becoming "*bark-bound*," and advising for its remedy the peeling of the outer corticle of bark entire.

I have the greatest respect and esteem for Prof. TURNER as one of my own correspondents, and as one who is doing much to advance horticultural science at the west. Yet, not having perfect faith in his theory, I trust it will not be deemed uncourteous in me to state what I consider the primary cause and the ultimate remedy; provided, in so doing, I occupy not too great a portion of your columns.

With an eye to this subject, I have, during the four years past, examined large numbers of cherry trees of all ages and sizes, and growing upon varied soils.

As Prof. TURNER says, writers have advised various specifics; one a blue clay, another light, thin soil, etc. etc., and all, like unto Mr. ALLEN's system of orcharding, on a large scale, and laying his orchard down to grass,—being only to diminish the annual growth of the tree, by lessening the amount of ascending sap, and thereby producing a short growth of fine close grain, fully ripened, and capable of enduring the sudden and exciting changes of our western climate. "Again, others have shaded the trunks from the hot sun

in summer." This I have myself practiced, not only in summer, but also in winter, and have seen the same practiced upon trees of twenty years' age; and, as Prof. T. remarks, "the remedy has as often failed as it has succeeded." The slitting with a knife was practiced by a friend of mine, an amateur in fruit culture, many years since, and without success; coming at last to the conclusion which impressed the mind of Rev. H. W. BEECHER, who, in a few remarks respecting this practice, says "he should as soon think of slitting the skin on a boy's legs, or on calves or colts, as a regular part of a plan of rearing them, as to slash the bark of sound and healthy trees." Prof. TURNER *does not* advocate the slitting of the bark I am aware. Yet I allude to it here, from the fact of having noticed a large number of trees this season, most unmercifully slitted and gashed—vertically, horizontally, zig-zag, and waved: "Prof. TURNER, of Illinois college, advises it, and we thought we would try it."

Every one who has ever tried it upon trees, knows that by slitting the bark of almost any tree when it is in vigorous growth, it will immediately expand, as though it had been compressed by a bandage. Artificial channels, so produced, are however soon filled up by new granulations, or layers of bark, and of course as much "bark-bound" as before the operation.

Professor TURNER would strip the entire outer corticle from the tree, and by this check the accumulation of sap to the gorging of the vessels of the trunk as dead matter. This, I believe, is the practice, as advised by him to be pursued. Prof. T. remarks that this dead matter accumulates upon "the *southern* side of the tree, to be frozen and torn off by the frosts of winter." The word *southern*, I presume, is placed rather

to designate the side of the tree upon which the "dead matter" is most generally supposed to be found, than as decisive of the *only* side upon which the tree is affected.

But now to my own observations and belief. And first, the bursting of the bark is not confined alone to the cherry, but may be found upon the apple, pear, peach, and Linden tree; possibly upon others, but not to my knowledge. The same exudation of sap or gummy matter does not follow such bursting, except in the peach. This bursting is also as rarely found upon trees of the common Mazzard or the Kentish, as upon the apple and pear; and therefore the trunks of these varieties are naturally as healthy and little subject to this bursting of the bark as other species.

To satisfy myself of this, I have examined numbers of large trees of Mazzards, both growing upon the richest of clay loam soil, on moderate soil, and upon a sandy loam; and also have examined the trunks of large trees, the tops of which are yearly producing the Black Heart, White Heart, Bigarreau, &c. Many that I have seen were grafted or budded at about one-half the distance up the trunk, leaving one-half the trunk Mazzard, and the other of the budded variety. In all cases, I have found the Mazzards the most free from any bursting of the bark. The rage with purchasers of trees, to procure "*large*, straight and thrifty trees," has doubtless been an incitement to nurserymen to prepare the soil in which they were growing trees for sale, so that they could produce a growth of from eight to eleven feet in a season; and this urging of the soil, too often aided by the strong roots of an old sucker, rather than the fibres of a young seedling. These trees, so produced, cannot have wood as firm and close as is natural to the cherry, because the growth is beyond its natural habit.

The trees, therefore, are not as capable of enduring our sudden changes of climate as they would be, were they grown only about three and a half to four feet the first season,—forming a close fine grained wood, well ripened. That a close grained, well ripened wood endures our climate best, is allowed by all; and is proved, by a notice of such trees as the Elm, Maple and Seckel, or most natural pear trees, contrasted with the Ailanthus, Willow, and many other rapid growing varieties.

That peeling the outer corticle of a tree entire, *may not* produce a healthy plant out of one diseased from its birth I do not assert; but as yet, I am not inclined to such belief. I regard the tree so diseased from its infancy, that if left to continue where first grown, or transplanted to even a richer or poorer soil six years—nay, often two years will not have passed without the evidence of over feeding in youth showing itself, by bursting of the sap vessels and exudation of its sap; this as often upon the north side of the tree as upon the south, caused, not directly by the hot sun, but mainly from the coarse spongy nature and early habit of the tree, easily acted upon by sudden changes of temperature.

If we advance the idea that some varieties are more hardy than others, that some will endure our climate when others will not, we should certainly attempt to build our support upon the evidence given by such trees as were of close grained wood, and moderate growers from the first. These may be found in the Dukes and Morellos; the Belle de Choisy and May Duke being rarely complained of as affected by the bursting of the sap, although of late I have heard of two instances of the latter variety, both however traced to the fact of being upon sucker stocks, and having been excessively stimulated during

their first year's growth, afterward in good strong soil.

The “fire-blight,” or “frozen sap-blight,” in the pear, is rarely found in the Doyenne or Seckel, but often upon the Bartlett and Dutchess d'Angouleme, and it is argued by writers to be induced from the rapid growth and spongy texture of wood in the latter varieties. So, why not this bursting of bark in the cherry, be attributed to the same cause?

The pear, in “frozen-sap-blight,” does not exude a gum, because such is not its nature; but its blackened appearance upon the body often coincides with that upon the cherry, and have by the writer been removed in the same way.

To support my own views, of the necessity of trees being not too much stimulated in early growth, I have examined in other's grounds, and have those in my own grounds—those that were grown slowly, say not over four feet the first season, in close proximity to others that were grown some eight feet the first year from bud. The result as yet has been, that while, of the trees grown slowly at first, as many are of the rapid growing varieties, as among those grown rapidly the first year; yet those of early slow growth have hardly shown any exhibition of bark bursting, while the others have abounded yearly in blackened spots, and bursting bark, and when cured in one place upon the body, has shown itself in others, and at last among the larger limbs.

That peeling the outer corticle entire, may not aid the tree for a time when so diseased, I may not now say; but that it will promote it from a sickly to a healthy tree, I doubt. And if it will aid or resuscitate the cherry, why will it not the pear?

The recommendation to grow the limbs low upon the bodies of trees, is one which

I think I advanced in a communication to the *Prairie Farmer* some two years since, and therefore I of course coincide with Prof. TURNER in that point; but beyond that, I would, to produce permanent healthy cherry trees, have them worked (if low down,) upon small seedling stocks, planted in ground that will not cause a growth the first year from bud of over four feet; or, rather, I should prefer the bud or graft inserted just below the point at which the head is intended to be formed, as in that case a less amount of the tree is removed when cutting back to the bud, a less injury is caused to the stock, and less growth of that season the result. Trees so grown during the first two years from the bud, I think, may then be transplanted to *any* soil, and be no more liable to "bark bursting" than the pear or peach.

With those trees already planted that are subject to being affected with "bursting bark," I find no difficulty in healing diseased points, by simply cutting away all dead matter, washing the wound with

strong soap-suds, and wrapping it up in fresh cow droppings. Very respectfully,

F. R. E.

Cleveland, Ohio, August, 1849.

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[As nothing is easier than the culture of all the finest cherries on the Hudson, and throughout most of the middle states, we know but little from our own observation of the difficulties which are largely experienced in the western states, and therefore welcome these intelligent discussions to our pages. The excessive luxuriance of growth, caused by the fertility of many western soils, is undoubtedly the cause of many obstacles in the way of the fruit-grower, which must be met by a resort to various counteracting expedients on his part. But even here, bark-bound trees are occasionally seen. Our own remedy here, is scraping the trunks, and washing them repeatedly with soap-suds; but we have also seen bark-bound trees restored to a sound normal state by the old and long practiced expedient of slitting the bark. ED.]

NEW REMEDY FOR THE CURCULIO.

BY GEO. GABRIEL, NEW-HAVEN.

DEAR SIR—The curculio or plum weevil is a troublesome insect to those who attempt to raise plums on a light soil, like ours at New-Haven. Various methods have been recommended and tried for its destruction; many of which, to my certain knowledge, have proved ineffectual. I have also tried experiments not "recommended in the books;" and, I flatter myself, not without success. In short, I think I have discovered an effectual preventive against the attacks of this mischievous insect.

Our light soil and locality appear to be well adapted to the plum, and every season opens with a fine prospect of an abundant crop, which is as often cut off by the ravages of this pernicious insect.

The remedy which has proved effectual with me, and which I wish to communicate, is this: I remove the surface of the earth around the tree about four feet diameter, and from two to three inches deep, and spread from three to four quarts of guano. Replace the earth, and upon the top of this

put about two bushels of iron shavings and filings, or the sweepings and waste of an iron factory, which costs nothing but the carting. The guano should not, of course, come in contact with the roots of the tree. The quantity should also correspond somewhat to the size of the tree.

The one experimented on is about three inches diameter in the trunk, and about six feet across the branches.

There are about a dozen varieties of plums in my garden, which have been alike attacked by the curculio, while the tree (a Green Gage,) upon which I have

experimented, has been exempt, and is now so full of fruit as to require propping.

Another Green Gage within fifty feet, and equally full of fruit, yet not less than nine-tenths of it was punctured by the curculio, and dropped prematurely. Other gardens in the neighborhood have suffered in the same way and to as great an extent.

The simplicity of the remedy I hope will not deter any from testing it, as it is well known that the simplest remedies often prove the most efficacious. Very respectfully,

GEO. GABRIEL.

New-Haven, Conn., Sept. 4, 1849.

ON THE DISADVANTAGES OF DEEP PLANTING TREES.

BY THOS. MEEHAN, PHILADELPHIA.

DEAR SIR—An impression obtains among American gardeners, that trees should be planted deeper in this country than in Europe, on account of the greater warmth of the summer season. This impression is erroneous. It can only have arisen by imperfect observation; as it is opposed alike to comparative experiment, and to every known principle of vegetable physiology.

Were not wonder and astonishment incompatible with the character of a wise man, one might think it strange that any person could be found in the universe, who would persevere in doubtful practices when very simple experiments would often set disputation on such subjects forever at rest. But, as Marryat's Stapleton says, "it is all human nature;" and so it must be endured, and the best made of it. Such may be said on the present subject. Let two hardy fibrous rooted shrubs be planted side by side, the only difference being, that one be planted 12 inches beneath the surface and

the other only 6, and 12 months will show that the shallow planted shrub has much the advantage. If the soil be any way rich, the difference between them will be the more marked. I once had to plant a very wet piece of ground with hardy evergreen shrubs. I had not sufficient influence to get it drained. I had only to plant. Knowing well these trees would do me no credit if planted *in* such soil and in the ordinary way, I planted them *on* the ground. I had the ground dug deep, as if for ordinary planting, laid the roots flat on the surface, threw on them broken sods, and covered the whole with fine soil. These trees afterwards afforded me as much satisfaction as any I ever planted. They contrasted strongly with the yellow appearance of others, which had been planted *in* the soil before.

It is the bane of gardening, that it is afflicted with a host of mere theorists. Men of no experience whatever,—wanting even an observing turn of mind,—will often pass

themselves off on the public as first rate gardeners. This acts injuriously on the prosperity of gardening in many ways. One is, that with inconsiderate people, theory is often underrated in its importance. This should not be. It ought to be an established rule, that no person should be deemed a first rate member of any profession, who is not able to tell *why* a thing is to be done as well as *how*. He should, in other words, be master of the theory of his profession as well as the practice. This holds good in the simplest operation. A scientific workman is worth two mere laborers; every one knows that. With these views, it is necessary to consider why trees should be shallow planted.

It has not yet been placed beyond dispute that vital action, or life in vegetable organisms, is caused by electric agency. Many modern physiologists incline to that opinion. But so far as the principle has been tested by mechanical contrivances, it seems to be a failure. It is, however, certain that vegetable life derives an essential stimulus from heat. A great—probably the greatest—part of the heat necessary to the existence of vegetable life, is derived through the medium of the roots. Hence arises the necessity, that no impediment intervene to interrupt the relations naturally existing between heat and the roots. It is essential that the temperature of the atmosphere should generally approximate to the soil around the roots; because the evaporation of the juices of a plant through the leaves, by a given degree of heat, the same or nearly the same degree of heat can only supply, through the roots. And if the roots of plants, therefore, be in a colder medium than the leaves, more matter will be evaporated than the roots can supply; and if the roots are in the warmer medium, more matter is received into the system

than the leaves can digest. In either case, death is the consequence. It is probable the temperature of the earth and air never coincide altogether; one being sometimes much warmer than the other, and sometimes the contrary. It seems to be an established principle, that vegetation is healthier the nearer these approximate. There is a great difference in the temperature of the soil at different depths, near the surface of the earth. Lindley has somewhere published a case, where a trial in summer gave 61°, Fahrenheit, at 6 inches below the surface; and at 3 feet, 44°. The nearer, then, the roots are to the surface, the more equal will be the heat to the roots and to the leaves.

Even could these principles be inviolate when deep planting is resorted to, it is doubtful whether plants could long remain healthy so. It is an error to suppose, as many do, that the roots of plants feed only on the soil. They feed also on the gases floating in the atmosphere, through the decomposition of organic beings. More especially do they feed on ammonia, from which they probably derive the major part of their nitrogen. The mechanical force of the descending rain brings these substances to the surface, where they are left to be absorbed by the roots in the immediate vicinity. Roots which are far beneath the surface can so receive no benefit from these revivifying circumstances.

It follows, from these principles, that the nearer the roots of plants are to the surface of the earth, consistently with their real known *aversion to light*, the nearer will they be to those conditions which nature's immutable laws declare to be most conducive to a perfect state of health. Should the transplanted tree be likely to suffer from drouth, a good mulching will effectu-

ally prevent that, besides be of good service in affording nutriment.

Here I might lay aside my pen, but for a paper by Mr. LEUCHARS, of New-Haven, Ct., in the last number of the *Horticulturist*, which leads me to fear an expression in my first paragraph may be misunderstood. By American gardeners, I mean all who *garden* in this country—natives or foreigners, barring a few “honorable exceptions.” Mr. L. considers all foreign gardeners, in this country, as characterized by “quacks, impositions, shows,” and a host of similar derogatory adjectives; but “plenty of good gardeners might be had by sending for them.” As an Englishman, I have had some experience in British gardeners at

home and abroad, and am sorry that I cannot confirm his statements. First rate gardeners are the exception, and not the rule there, as well as here; in American gardeners as well as English ones; and in other professions as well as gardening, must the same exception in the perfection of knowledge be made. Mr. L.’s remarks are otherwise judicious and well timed. It is only in justice to several very excellent British gardeners that I know in this country, and whose chances of obtaining situations suitable to their abilities might be injured by such a sweeping statement, that I had thought it a duty to suggest to Mr. L. this explanation. THOS. MEEHAN.

Kingsessing, Philadelphia, Aug. 15, 1849.

WRENS THE BEST INSECT DESTROYERS.

BY J. J. S., PHILADELPHIA.

THE charming little songster, the house wren, as he is called, (*Troglodytes Aedon, Vieill.*) is well known to build his nest wherever a suitable hole in a tree or the house presents itself; and both WILSON and AUDUBON speak of an old hat, with a hole in it, as a not uncommon resort. The former author relates, that in the month of June a mower hung up his coat under a shed, near the barn; two or three days elapsed before he had occasion to put it on again. Thrusting his arm up the sleeve, he found it completely filled with some rubbish, as he expressed it; and, on extracting the whole mass, found it to be the nest of a wren, completely finished, and lined with a large quantity of feathers. In his retreat he was followed by the little forlorn proprietors, who scolded him with great vehemence for thus ruining the whole economy of their household affairs. WIL-

SON continues:—“Scarce a house or cottage in the country is without at least a pair of them, and sometimes two; but unless there is a large garden, orchard, and numerous outhouses, it is not often the case that more than one pair reside near the same spot, owing to their party disputes and jealousies.”

Either the bird has very much multiplied among us, which is no doubt the fact, or an *accidental wren box*, of which I send you a drawing, has been found by the wren so secure and dry, that, in a space of less than twenty-five acres at Laurel Hill Cemetery, near Philadelphia, I am probably safe in saying there have been this year more than fifty pair, rearing two broods each.

The drawing represents the ornamental posts of the iron railing enclosures of very many lots. *a* is the top, larger than *b*, the

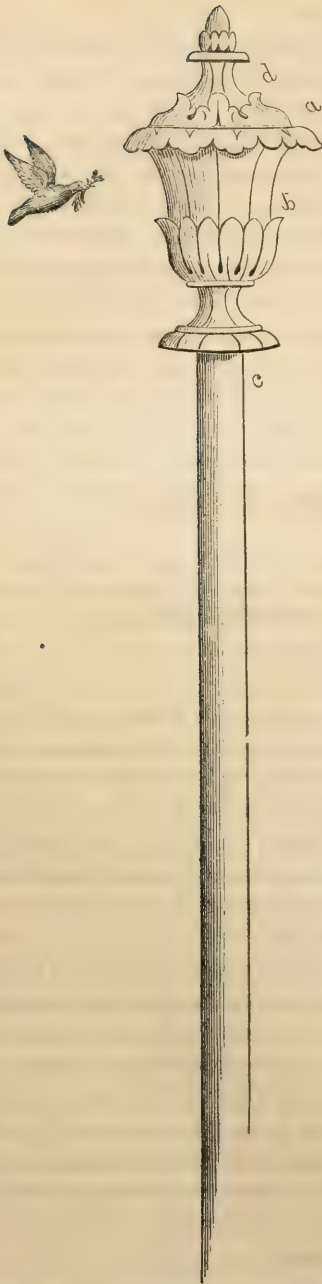


Fig. 79.

vase, which it completely shelters; but between the two is a space, serving for the entrance of the wren, invisible to the spectator without stooping, and only large enough to admit two fingers in breadth. *c* is the post, to which the whole is attached by a screw at the apex, *d*. It is usually not more than three or four feet high; and as the visitor passes, he is surprised to hear the chirp of the youngsters, and to see the parents every few minutes perch on the railing, and disappear under the top of the vase, *a*. This is an ornamental wren box that would be very pretty in a lawn; and Mr. Wood, the great railing manufacturer on the Ridge Road, Philadelphia, will supply them in any desired number.

It has been said by a friend* to this little bird, that "the esculent vegetables of a whole garden may, perhaps, be preserved from the depredations of different species of insects, by ten or fifteen pair of these small birds." There can be no doubt of their utility, as well as ornament to a garden; and I believe by providing suitable accommodations, we may *now* have them. However scarce they may have been in the time of WILSON, they have increased with our population, whose neighborhood they evidently court, for the insects which gardens produce in such abundance.

I should be glad to see some good contributor to the Horticulturist, whose fondness for natural objects, leads him to observe the habits of birds. *Loudon's Gardeners' Magazine* was often highly interesting in this particular. Something new to many readers might occasionally be gleaned from WILSON's most agreeable but expensive pages. As a beginning, I copy his sweet lines on the *Blue Bird*, for insertion:

* Barton's Fragments.

The winter's cold tempests and snows are no more,
 Green meadows, and brown furrow'd fields re-appearing,
 The fishermen hauling their shad to the shore,
 And cloud-cleaving geese to the lakes are a-steering;
 When first the lone butterfly flits on the wing,
 When red glow the maples, so fresh and so pleasing,
 Oh then comes the blue bird, the HERALD OF SPRING!
 And hails with his warblings the charms of the season.

Then loud piping frogs make the marshes to ring;
 Then warm glows the sunshine, and fine is the weather;
 The blue woodland flowers beginning to spring,
 And spicewood and sassafras budding together;
 Oh then to your gardens ye housewives repair!
 Your walks border up; sow and plant at your leisure;
 The blue bird will chant from his box such an air,
 That all your hard toils will seem truly a pleasure.

He flits thro' the orchard, he visits each tree,
 The red flowering peach and the apple's sweet blossoms;
 He snaps up *destroyers* wherever they be,
 And seizes the caitiffs that lurk in their bosoms;
 He drags the vile *grub* from the core it devours;
 The worms from their webs where they rot and welter;
 His song and his services freely are ours,
 And all that he asks is, in summer a shelter.

The plowman is pleas'd when he gleans in his train,
 Now searching the furrows—now mounting to cheer him;
 The gard'ner delights in his sweet simple strain,
 And leans on his spade to survey and to hear him:
 The slow ling'ring school-boys forget they'll be chid,
 While gazing intent as he warbles before them
 In mantle of sky-blue, and bosom so red,
 That each little loiterer seems to adore him.

When all the gay scenes of the summer are o'er,
 And autumn slow enters so silent and fallow,
 And millions of warblers, that charm'd us before,
 Have fled in the train of the sun-seeking swallow;
 The blue bird, forsaken, yet true to his home,
 Still lingers and looks for a milder to-morrow,
 Till forc'd by the horrors of winter to roam,
 He sings his adieu in a long note of sorrow.

While spring's lovely season, serene, dewy, warm,
 The green face of earth, and the pure blue of heav'n,
 Or love's native music, have influence to charm,
 Or sympathy's glow to our feelings are given,
 Still dear to each bosom the blue bird shall be;
 His voice, like the thrillings of hope, is a treasure;
 For, thro' bleakest storms if a calm he but see,
 He comes to remind us of sunshine and pleasure!

THOUGHTS ON THE FLOWER GARDEN.

[WE extract the following delightful piece of writing from a number of the *London Quarterly*. It deserves to be more widely read than it is likely to be in the pages of the Review itself. ED.]

No associations are stronger than those connected with a garden. It is the first pride of an emigrant settled on some distant shore to have a little garden as like as he can make it to the one he left at home. A pot of violets or mignonette is one of the highest luxuries of an Anglo-Indian. In the bold and picturesque scenery of Batavia, the Dutch can, from feeling, no more dispense with their little moats round their houses than they could, from necessity, in the flat swamps of their native land. Sir John Hobhouse discovered an Englishman's residence on the shore of the Hellespont by the character of his shrubs and flowers. Louis XVIII., on his restoration to France, made in the park of Versailles the facsimile of the garden at Hartwell; and there was no more amiable trait in the life of that accomplished prince. Napoleon used to say that he should know his father's garden in Corsica blindfold by the smell of the earth; and the hanging gardens of Babylon are said to have been raised by the Median queen of Nebuchad-

nezzar on the flat and naked plains of her adopted country, to remind her of the hills and woods of her childhood.

Why should we speak of the plane-trees of Plato—Shakspeare's mulberry-tree—Pope's willow—Byron's elm? Why describe Cicero at his Tusculum—Evelyn at Wootton—Pitt at Ham Common—Walpole at Houghton—Grenville at Dropmore? Why dwell on Bacon's 'little tufts of thyme,' or Fox's geraniums? There is a spirit in the garden as well as in the wood, and 'the lilies of the field' supply food for the imagination as well as materials for sermons. 'Talke of perfect happiness or pleasure,' says old Gerarde to the 'courteous and well-willing reader,' from his 'house in Holborn, within the suburbs of London'—'and what place was so fit for that as the garden-place wherein Adam was set to be the herbalist? Whether did the poets hunt for their sincere delights but into the gardens of Alcinous, of Adonis, and the orchards of the Hesperides? Where did they dream that heaven should be but in the pleasant garden of Elysium? Whether doe all men walke for their honest recreation but thither where the earth hath most beneficially painted her face with flourishing colours? And what season of the yeare more longed for than the spring,

whose gentle breath enticeth forth the kindly sweets, and makes them yield their fragrant smells?’

And what country, we may add, so suited, and climate so attempered, to yield the full enjoyment of the pleasures and blessings of a garden, as our own? Everybody knows the remark of Charles II., first promulgated by Sir W. Temple, ‘that there were more days in the year in which one could enjoy oneself in the open air in England than in any other portion of the known world.’ This, which contains so complete an answer to the weather-grumblers of our island, bears also along with it a most encouraging truth to those ‘who love to live in gardens.’ There is no country that offers the like advantages to horticulture. Perhaps there is not one plant in the wide world wholly incapable of being cultivated in England. The mosses and lichens dragged from under the snows of Iceland, and the tenderest creepers of the tropical jungles, are alike subject to the art of the British gardener. Artificial heat and cold, by the due application of steam and manure, sun and shade, hot and cold water, and even ice—matings, flues in every variety of pit, frame, conservative wall, conservatory, green-house, hot-house, and stove, seem to have realised every degree of temperature from Kamskatka to Singapore. But apart from artificial means, the natural mildness of our sky is most favorable to plants brought from countries of either extreme of temperature; and, as their habits are better known and attended to, not a year passes without acclimatising many heretofore deemed too tender for the open air. Gardeners are reasonably cautious in not exposing at once a newly-introduced exotic; and thus we know that when Parkinson wrote, in 1629, the larch, and the laurel—then called bay-cherry—were still protected in winter. We are now daily adding to the list of our hardy plants; hydrangeas, the tree-peony, fuchsias, salvias, altromærias, and Cape-bulbs, are now found, with little or no protection, to stand our mid-England winters.

Then we alone have in perfection the three main elements of gardening, flowers apart, in our lawns, our gravel, and our evergreens. It is the greatest stretch of

foreign luxury to emulate these. The lawns at Paris, to say nothing of Naples, are regularly irrigated to keep up even the semblance of English verdure; and at the gardens of Versailles, and Caserta, near Naples, the walks have been supplied from the Kensington gravel-pits. It is not probably generally known that among our exportations are every year a large quantity of evergreens for the markets of France and Germany, and that there are some nurserymen almost wholly engaged in this branch of trade. This may seem the more remarkable to those who fancy that, from the superiority of foreign climates, any English tree would bear a continental winter; but the bare appearance of the French gardens, mostly composed as they are of deciduous trees, would soon convince them of the contrary. It is not the severity or length of our December nights that generally destroys our more tender exotic plants, but it is the late frosts of April and May,—those ‘nipping frosts,’ which, coming on after the plant has enjoyed warmth enough to set the sap in action, freeze its life-blood to the heart’s core, and cause it to wither and die. The winter of 1837–8 proved this fact distinctly, which had hardly been sufficiently remarked before. That year, which cut down even our cypresses, and china-roses, and from which our gorse-fields have hardly yet recovered, while it injured nearly every plant and tree on south walls and in sheltered borders, and in all forward situations, spared the tenderest kinds on north walls and exposed places; and in Scotland the destruction was hardly felt at all. It was the backwardness of their growing state that saved these plants; and the knowledge of this fact has already been brought to bear in several recent experiments. The double yellow rose, for instance, one of the most delicate of its class, is now flowered with great success in a northern exposition. It has led men also to study the hybernation of plants—perhaps the most important research in which horticulturists have of late engaged; and it has been ascertained that this state of winter-rest is a most important element in their constitution; but no doubt it will also be found that—as the dormouse, the sloth, the snake, the mole, &c., undergo

a greater or less degree of torpidity, and some require it not at all—so in plants, the length and degree will vary much in different species, and according to their state of artificial cultivation. As a general rule, young gardeners must take heed not prematurely to force the juices into action in spring, nor to keep them too lively in winter, unless they are well prepared with good and sufficient protection till all the frosts are over. The practical effect of these observations will be, that many plants which have hitherto only been cultivated by those who have had flues and green-houses at their command, will now be grown in as great or greater perfection by those who can afford them a dry, though not a warm shelter. One instance may serve as an example: the scarlet geranium, one of the greatest treasures of our parterres, if taken up from the ground in autumn, after the wood is thoroughly ripened, and hung up in a dry room, without any soil attaching to it, will be found ready, the next spring, to start in a new life of vigor and beauty.

One characteristic of our native plants we must mention, that if we miss in them something of the gorgeousness and lustre of more tropical flowers, we are more than compensated by the delicacy and variety of their perfume; and just as our woods, vocal with the nightingale, the blackbird, and the thrush, can well spare the gaudy feathers of the macaw, so can we resign the oncidiums, the cactuses, and the ipomæas of the tropics, for the delicious fragrance of our wild banks of violets, our lilies-of-the-valley, and our woodbine, or even for the passing whiff of a hawthorn bush, a clover or bean field, or a gorse-common.

With such hedgerow flowers within his reach, and in so favorable a climate, it is not to be wondered that the garden of the English cottager has been remarked among our national distinctions. These may be said to form the foreground of that peculiar English scenery, which is filled up by our hedge-rows and our parks. The ingenious authoress of '*Leila in England*,'* makes

the little new-landed girl exclaim for the want of 'fountain-trees' and 'green parrots.' This is true to nature—but not less so the real enthusiasm of Miss Sedgwick, on her first arriving in England, at the cottage-gardens of the Isle of Wight. Again and again she fixes upon them as the most pleasing and striking feature in a land where everything was new to her. Long may they so continue! It is a trait of which England may well be proud; for it speaks—would we could trace it everywhere!—of peace, and of the leisure, and comfort, and contentedness of those who 'shall never cease from the land.'

We would even make gardens in general a test of national prosperity and happiness. As long as the British nobleman continues to take an interest in his avenues and hot-houses—his lady in her conservatories and parterres—the squire overlooks his laborers' allotments—the 'squires' and 'squirinas' betake themselves and their flowers to the neighboring horticultural show—the citizen sets up his cucumber-frame in his back-yard—his dame her lilacs and almond-trees in the front-court—the mechanic breeds his prize-competing auriculas—the cottager rears his sun-flowers and Sweet-Williams before his door—and even the collier sports his 'posy jacket'—as long, in a word, as this common interest pervades every class of society, so long shall we cling to the hope that our country is destined to outlive all her difficulties and dangers. Not because, like the Peris, we fight with flowers, and build amaranth bowers, and bind our enemies in links of roses—but because all this implies mutual interest and intercourse of every rank, and dependence of one class upon another—because it promotes an interchange of kindnesses and favors—because it speaks of proprietors dwelling on their hereditary acres, and the poorest laborer having an interest in the soil—because it gives a local attachment, and healthy exercise and innocent recreation, and excites a love of the country and love of our own country, and a spirit of emulation, devoid of bitterness—because it tells of wealth wisely spent, and competence widely diffused, of taste cultivated, and science practically applied—because, unlike Napoleon's great lie, it *does*

* This is a pleasing continuation of her '*Leila*, or the Island.' All Miss Tylder's books for children are worthy of being generally known.

bring 'peace to the cottage,' while it blesses the palace, and every virtuous home between those wide extremes—because it bespeaks the appreciation of what is natural and simple, and pure—teaches men to set the divine law of excellence above the low human standard of utility—and because, above all, in the most lovely and bountiful of God's works, it leads them up to Him that made them, not in a mere dumb, inactive admiration of His wonderful designs, but to bless Him that He has given them pleasures beyond their actual necessities—the means of a cheerful countenance, as well as of a strong heart.

Still more—because—if ours be not too rude a step to venture within such hallowed ground—it speaks of a Christian people employed in an occupation, which, above all others, is the parable that conveys the deepest truths to *them*—which daily reads them silent lessons, if their hearts would hear, of the vanity of earthly pomp, of the beauty of heavenly simplicity, and purity, and lowliness of mind, of contentment and unquestioning faith—which sets before them, in the thorns and thistles, a remembrance of their fallen state—in the cedar, and the olive, and the palm-tree, the promise of a better country—which hourly recalls to their mind the Agony and the Burial of Him who made a garden the scene of both, and who bade us mark and consider such things, how they bud, and 'how they grow,' giving us in the vine a type of His Church, and in the fig-tree of His Coming.

Again, we would ask those who think that national melioration is to be achieved by dose upon dose of Reform or Red-tapery, where should we now have been without our savings-banks, our allotment system, and our cottage gardens? And lest we should be thought to have been led away from flowers to the more general subject, we will add that when we see a plot set apart for a rose-bush, and a gilliflower, and a carnation, it is enough for us: if the jasmine and the honeysuckle embower the porch without, we may be sure that there is a potato and a cabbage and an onion for the pot within: if there be not plenty there, at least there is no want; if not happiness,

the nearest approach to it in this world—content.

'Yes! in the poor man's garden grow
Far more than herbs and flowers;
Kind thoughts, contentment, peace of mind,
And joy for weary hours.'

Gardening not only affords common ground for the high and low, but, like Christianity itself, it offers peculiar blessings and privileges to the poor man, which the very possession of wealth denies. 'The Spitalfields weaver may derive more pleasure from his green box of smoked auriculas,' than the lordly possessors of Sion, or Chatsworth, or Stowe, or Alton, from their hundreds of decorated acres; because not only personal superintendence, but actual work is necessary for the true enjoyment of a garden. We must *know* our flowers, as well as buy them. Our great-grandmothers, who—before they *were* great-grandmothers—'flirted on the sunny terraces, or strolled along the arched and shaded alleys' of our old manor-houses,—'had their own little garden, where they knew every flower, because they were few; and every name, because they were simple. Their rose-bushes and gilliflowers were dear to them, because themselves had pruned, and watered, and watched them—had marked from day to day their opening buds, and removed their fading blossoms—and had cherished each choicest specimen for the posy to be worn at the christening of the squire's heir, or on my lord's birthday.'

In a like strain, 'the wise and good author of 'Human Life' beautifully says:

'I would not have my garden too extended; not because flowers are not the most delicious things, speaking to the sentiments as well as to the senses, but on account of the intrinsic and superior value of moderation. When interests are divided, they are not so strong. Three acres of flowers and a regiment of gardeners bring no more pleasure than a sufficiency. Besides which, in the smaller possession, there is more room for the mental pleasure to step in and refine all that which is sensual. We become acquainted, as it were, and even form friendships, with individual flowers. We bestow more care upon their bringing up and progress. They seem sensible of our favor, absolutely to enjoy

it, and make pleasing returns by their beauty, health, and sweetness. In this respect a hundred thousand roses, which we look at *en masse*, do not identify themselves in the same manner as even a very small border; and hence, if the cottager's mind is properly attuned, the little cottage-garden may give him more real delight than belongs to the owner of a thousand acres. All this is so entirely nature, that give me a garden well kept, however small, two or three spreading trees, and a mind at ease, and I defy the world.'

Nor do we find anything contravening this, in Cowley's wish that he might have 'a small house and large garden, few friends, and many books.' Doubtless he coveted neither the Bodleian nor Chatsworth, and intended his garden to be 'large,' only in comparison with his other possessions.

It is this limited expenditure and unlimited interest which a garden requires, combined with the innocence of the amusement, that renders it so great a blessing—more even than to the cottager himself—to the country clergyman. We must leave to the novelist to sketch the happy party which every summer's evening finds busied on many an English vicarage-lawn, with their trowels and watering-pots, and all the paraphernalia of amateur gardeners; though we may ask the utilitarian, if he would deign to scan so simple a group, from the superintending vicar to the water-carrying schoolboy, where he would better find developed 'the greatest happiness of the greatest number,' than among those very objects and that very occupation where utility is not only banished, but condemned.

We would have our clergy know that there is no readier way to a parishioner's heart—next to visiting his house, which, done in health and in sickness, is the keystone of our blessed parochial system—than to visit his garden, suggesting and superintending improvements, distributing seeds, and slips, and flowers, and lending or giving such gardening books as would be useful for his limited domain. And many a poor scholar, in some obscure curacy, out of the way of railroads and book-clubs,

Without a hope on earth to find
A mirror in an answering mind,¹

has made the moral and intellectual wilderness in which he is cast, bloom for him in his trees, and herbs, and flowers; and if unable, from the narrowness of his means and situation,

'To raise the terrace or to sink the grot,'²

has found his body refreshed and his spirits lightened, in growing the salad to give a relish to his simple meal, and the flower to bedeck his threadbare button-hole,—enabled by these recreations to bear up against those little every-day annoyances which, though hardly important enough to tax our faith or our philosophy, make up in an ill-regulated or unemployed mind the chief ills of life.

Pope, who professed that of all his works he was most proud of his garden, said also, with more nature and truth, that he 'pitied that man who had completed everything in his garden.' To pull down and destroy is quite as natural to man as to build up and improve, and this love of alteration may help to account for the many changes of style in gardening that have taken place. The course of the seasons, the introduction of new flowers, the growth of trees, will always of themselves give the gardener enough to do; and if the flower-garden is perfect, and there is a nook of spare ground at hand, instead of extending his parterres, which cannot be kept too neat, he had better devote it to an arboretum for choice trees and shrubs; or take up with some one extensive class—as for a thornery or a pinery; or make it a wilderness-like mixture of all kinds. Such grounds will not require mowing more than twice or thrice in the year, and will afford much pleasure, without much labor and expense. If there is a little damp nook or dell, with rock-work and water at command, let it by all means be made a fernery, for which Mr. Newman's book will supply plenty of materials.

To produce new seedling varieties of one's own, by hybridizing and other mysteries of the priests of Flora, is indeed the highest pleasure and the deepest esotericism of the art. The impregnating them is to venture within the very secrets of

¹ In life's stillost shade reclining,
In desolation unrepinning,

creation, and the naming them carries us back to one of the highest privileges of our first parents. The offspring becomes our own *ἔγγον*; which, according to Aristotle, claims the highest degree of our love. We should feel that, in leaving them, we were leaving friends, and address in the words of Eve,

‘O flowers,
My early visitation and my last
At even, which I had bred up with tender hand
From the first opening bud, and gave ye names,
Who now shall rear ye to the sun, or rank
Your tribes, and water from the ambrosial fount?’
Par. Lost, xi.

We cannot but admire the practice of the Church of Rome, which calls in the aid of floral decorations on her high festivals. If we did not feel convinced that it was the most bounden duty of the Church of England, at the present moment, to give no unnecessary offence by restorations in indifferent matters, we should be inclined to advocate, notwithstanding the denunciations of some of the early Fathers, some slight exception in the case of our own favorites. We shall not easily forget the effect of a long avenue of orange-trees in the Cathedral of St. Gudule at Brussels, calling to mind as it did the expression of the psalmist—‘Those that be planted in the house of the Lord shall flourish in the courts of our God.’ The white lily is held throughout Spain and Italy the emblem of the Virgin’s purity, and frequently decorates her shrines; and many other flowers, dedicated to some saint, are used in profusion on the day of his celebration. The oak-leaf and the palm-branch have with

us their loyal and religious anniversary, and the holly still gladdens the hearts of all good Churchmen at Christmas—a custom which the Puritans never succeeded in effacing from the most cant-ridden parish in the kingdom. Latterly, flowers have been much used among us in festivals, and processions, and gala-days of all kinds—the dahlia furnishing, in its symmetry and variety of colouring, an excellent material for those who, perhaps, in their young days sowed their own initials in mustard-and-cress, to inscribe in their maturer years their sovereign’s name in flowers. Flowering plants and shrubs are at the same time becoming more fashionable in our London ball-rooms. No dread of ‘noxious exhalations’ deters mammas from decorating their halls and staircases with flowers of every hue and fragrance, nor their daughters from braving the headaches and pale cheeks, which are *said* to arise from such innocent and beautiful causes. We would go one step further, and replace all artificial flowers by natural ones, on the dinner-table and in the hair. Some of the more amaranthine flowers, as the camellia and the hoya, which can bear the heat of crowded rooms, or those of regular shapes, as the dahlia and others, would, we are sure, with a little contrivance in adjusting and preserving them, soon eclipse the most artistical wreaths of Natir or Forster, and we will venture to promise a good partner for a waltz and for life to the first fair *débutante* who will take courage to adopt the natural flower in her ‘sunny locks.’

THE CULTURE OF HEATHS.

BY WILLIAM SAUNDERS, NEW-HAVEN, CT.

I was pleased to observe, in a late number of the *Horticulturist*, some allusion to this family of plants, relative to the introduction of some of the rare and superior varieties. There is probably no class of green-house plants that commend themselves so much to our attention as this. The varieties are so numerous and varied,

both in foliage and flower, even when they are not in flower; the plants have a lively appearance, on account of the diversified beauty of their foliage, and their neat and bushy habit; and the flowers are all very interesting—some of them, indeed, of most exquisite beauty and delicacy. A selection judiciously made, and properly

managed, will flower in rotation all the year; and even in the most limited collection of plants, there are none that will give more satisfaction to the cultivator than the heaths.

Having had some experience in their management, I venture to send the following remarks on their culture, hoping that they may be useful to some of your readers. Not that I have any new or novel system to advance, or wish to set up my practice, as a model for experienced cultivators; but only that I would describe a mode of practice which has been attended with tolerable success, with the hope that this beautiful tribe of plants will receive more attention than it has hitherto done, and that heaths should be held in the estimation among flowering plants that they so worthily deserve.

Heaths are widely dispersed over the eastern hemisphere. In Britain, more particularly in the picturesque scenery of Scotland, they are very abundant, and hold a prominent place in the native flora of the country; the *heather bells* being held in high estimation by all lovers of pastoral beauty, and no less by their associations than their intrinsic charms, adding to the beauty of the varied scene. To the Cape of Good Hope, however, we are indebted for the splendid varieties cultivated in our green-houses. There, they have a wide altitudinal range, which accounts for some of the varieties being hardier than others; a few degrees of frost being fatal to some, while others will endure it without injury. For distinction, the strong free growing roots are termed soft-wooded; these make growths eighteen inches or more in one season. Those that are less robust, making seasonal growths of only a few inches, are designated hard-wooded; the latter are, in general, most beautiful, also requiring more

care in their management than the former. But there is nothing to deter any lover of plants from attempting their cultivation, although the contrary is very generally supposed.

The most important subject to be considered, is securing proper soil. Without this, all attempts to success will be futile. No attention will compensate for the plants being potted in unsuitable material; and here I cannot help remarking, that the recommendations of some writers on this subject—the mixing together of minute portions of different kinds of earths and manures for the growth of one kind of plant—savors too much of mysticism for me, inasmuch as everything truly useful in nature is characterized by simplicity, rather than complexity. I have often thought that such recommendations have a tendency to hinder, rather than advance, the purposes for which they are intended. I have seen prescriptions of this nature, which, if plants succeeded at all in them, could only be accounted for on the grounds, that the deleterious quality of some of the ingredients was neutralised by an opposite quality in others.

Heaths, like the Azalea and Rhododendron, make very small, hair-like roots; and where these latter are growing naturally, will be found a good locality to collect soil for the artificial cultivation of the former. This soil will be found full of decaying organic matter. Take up a handful of it, and you will find a mass of thickly grown fine fibres, feeling like a bunch of moss. Examine it, and you will see that it is chiefly composed of a black debris of leaves and sticks, thickly interwoven with the roots of surrounding vegetation. An inch or two only of the surface should be taken; all below that is generally inferior,—the organic matter in it being too much decomposed.

Where this deposit cannot be obtained, a good substitute will be found in turves from old pastures, cut thin, collected in dry weather, and piled in a heap two or three months before using, so that the vegetation on it may be slightly decomposed. Both in its chemical and mechanical properties, such a soil is nearly all that can be wished. In preparing it, however, it is better to chop it up rather fine, securing a proper mechanical texture by the admixture of coarse sand, broken charcoal, or even a few rubbly pebbles; or broken pots-herds, I have used with advantage in keeping the soil open, to allow free admission for atmospheric gases,—an essential point to be kept in view in the cultivation of all plants, more particularly those in pots; for they are then entirely dependant on the cultivator for those conditions which they receive in their natural habitats. Such a soil as here recommended, kept sufficiently open by any of the above mentioned ingredients, is easily penetrated by air, thereby increasing its temperature, and facilitating the decomposition of organic matter; during which process, various healthful gases are supplied to plants. In a soil thus conditioned, experience has convinced me that *all* kinds of green-house plants can be grown to great perfection, if properly managed in other respects.

Preparing the pots is also a matter of some importance. These ought to be thoroughly clean, and properly drained. This is effected by placing a piece of broken pot, with its convex side downwards, fitting closely to prevent the ingress of insects. Over this lay a stratum of the same material, varying in depth from one inch to three, according to the size of the pot. Large pots are often drained by inverting a small one in the bottom, and filling around it with charcoal, or whatever is used for the

purpose. Over this put a thin layer of moss, or the rougher parts of the soil, to prevent the smaller particles being washed down among the drainage.

As regards the best time for shifting Heaths, those who are adepts in practice, and look after their plants themselves, will be guided by the health and vigor of growth of the plants. In all cases, however, where the principles of vegetable physiology are imperfectly understood, I would recommend the early part of spring. If the plants are thrifty, with foliage of a dark green healthy hue, and when turned out of the pots, presenting a good portion of healthy roots, they will be in good condition for a liberal shift. If, for instance, they have been growing in 4-inch pots, they may be transferred into 8-inch sizes, and so on in proportion.

On the other had, if the plants appear sickly, with the points of the shoots of a yellowish colour, and, when turned out, present no appearance of healthy roots, it will be necessary to remove as much as possible of the old soil. In all likelihood, this has been caused by improper drainage; and no plant will flourish well in a soil soured by stagnant water, even under the best counterbalancing treatment. In this case, pots of the same size that they were previously growing in will be large enough until they make healthy roots, when they can be shifted into larger, with reasonable hopes of success.

Although transferring a plant from one pot to another may in itself appear a very simple operation, yet there are various particulars connected with the proper performance of it, on different plants, which require strict attention. On this subject I may, at some future time, offer a few remarks. To proceed with those under consideration, having everything in readiness,

fill in as much of the fresh soil as will bring the plant to the desired height in the pot, leaving plenty of room for watering, and taking care not to cover any of the stem. The collar of the plant, that is, where the roots and stem proceed in opposite directions, should never be covered with any depth of soil. Deep planting is a certain cause of failure; and I am of opinion, that if this single circumstance was properly attended to, in out-of-door planting, we would not hear so many complaints about canker, &c., in fruit trees. As the potting proceeds, press the soil regularly all round; giving the bottom of the pot a rap on the potting table will assist in consolidating the soil; and if it is rather dry than otherwise, and properly prepared, there will be little danger of making it too firm for these plants, if nothing harder than the fingers be used in compressing it. If the pots are large, and the plants likely to remain in them for two or three years, it is a good plan, while potting, to introduce a few strips of charcoal, reaching from the surface of the soil to the top of the drainage. This will at all times secure an equal distribution of water in the mass, and act as a reservoir for nourishing gases. When the potting is finished, give a good watering, and if a few potsherds are laid on the surface, to run the water upon, the fresh soil will not be disturbed. Always use rain water if possible, and apply it only when the plants really require it. I apprehend there are more plants lost from injudicious watering, in combination with imperfect drainage, than any other cause. No plant can be kept long in a healthy, flourishing state, where a routine system of dribbling a little water daily is persevered in, whether the plant require it or not. When water is applied, let it be given in sufficient quantity to permeate

the whole mass thoroughly; otherwise the surface will be moist, while the rest of the soil is quite dry, and, of course, the roots injured. During summer they must be kept cool; if in flower, in the green-house, an agreeable temperature will be easily maintained by shading from the sun and applying moisture. But on this subject, the well timed remarks of Mr. LEUCHARS makes it unnecessary for me to enlarge. Those not in flower will be easier managed if placed out of doors, and kept in a frame. This may be of the rudest construction; four boards nailed together so as to form a square, will suit admirably. This box or frame should be elevated an inch or two from the ground for better circulation of air. The pots should be plunged up to the rim to keep the roots cool. Over this, erect a temporary frame-work, four or five feet high, on which a thin canvass, attached to a roller, may be moved up and down for the purpose of shading. They must be constantly shaded from bright sun, and fully exposed at night. They will be benefitted by a slight shower occasionally; and during very heavy rains, the blind being let down will preserve the plants from injury. Syringe them occasionally in dry weather, and keep up a kindly humidity by frequently sprinkling round the frame, and between the plants.

During their growth, attention must be given to the ultimate shape of the plant. The slow growing varieties require little help in this respect; stopping-back any luxuriant side shoots, and keeping a distinct leader, are the main objects. The strong growing kinds look well when trained in a pyramidal fashion. To effect this, select one of the strongest shoots as a leader, and secure it to a stake, encouraging it, as much as possible, by pinching-back all the side shoots. When trained in this

manner, with dense foliage from the pot upwards, the flowers are shown to great advantage.

About the middle of October they may be overhauled, dead leaves picked off, and the pots washed, preparatory to taking them into the green-house. Here they must be placed by themselves in the coldest part of the house. They will now require very little water—merely enough to keep them from flagging, and give a little fresh air every favorable opportunity.

During winter use no more fire heat than is absolutely necessary. Great harm is often done by keeping a high artificial temperature at this season, especially at night; and very frequently is the highest artificial heat maintained on those nights when the external temperature is lowest, and the thermometer kept as high as during the day. It is more in accordance with nature, to raise the temperature during the day sufficiently high to allow a diminution of heat during the night, so that the plants may participate in the change. It is during this—their temporary cessation, caused by the absence of light and heat—that they are enabled to recover their elasticity and vigor, and to replace the loss of gaseous matters, which were given off during the light of the preceding day. Where the house is heated by a hot air flue, it is ne-

cessary to have troughs of some description, filled with water, placed on the covers to modify the aridity of the air by evaporation. Hot-water pipes should also have evaporating pans fitted on them, and kept supplied with water; for although they radiate heat at a lower temperature than flues, it is also of a drying nature, and prejudicial to vegetation. A maximum heat of 45 degrees, and a minimum of 35 degrees, will be amply sufficient for green-house plants during the short days of winter. In the absence of light, it is hurtful to urge any plant to grow by the mere forcing power of heat. Such growth can never be vigorous, nor produce satisfactory results.

As the season advances and the light increases, the plants will require more water and air, always avoiding cold cutting winds, admitting air first by the top lights, and keeping the house close during foggy, dense weather. The close growing Heaths are very subject to mildew. This is got rid of by dusting the parts affected with sulphur, and washing them clean with a syringe a day or two afterwards. I have said nothing about their propagation, or raising seedlings. Should you think it desirable, I will be happy to give my experience on these matters also.

WILLIAM SAUNDERS,
Gardener to Wm. Bostwick, Esq.

New-Haven, Conn., Aug. 16, 1849.

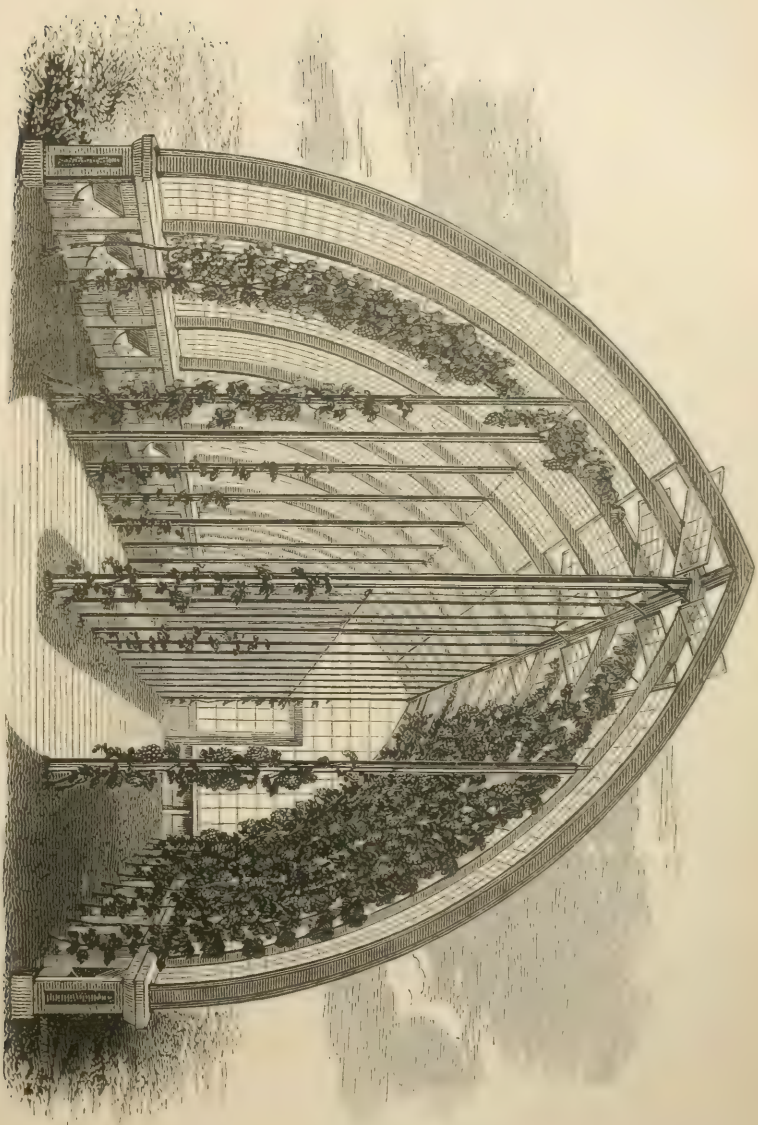
THE VINERY AT CLINTON POINT.

[SEE FRONTISPIECE.]

Our frontispiece is intended to convey to the reader some idea of the very complete vinery at Clinton Point, the residence of our neighbor, PHILIP S. VAN RENSSELAER, Esq., near New-Hamburg, on the Hudson.

The effect of this vinery is so excellent,

and its adaptation to the intended purpose so complete, that we consider it the best model for a curvilinear house that we have yet seen. The general plan is not unlike that of many vineries near Boston; but in simplicity, and nicety of construction, it



HORT. Oct. 1870.

VIEW IN THE VINERY,
At Clinton Point.

far surpasses all the curved roofed vineries that we have seen there, and was designed by Mr. VAN RENSSELAER after a thorough inspection of the best vineries in the country.

The house is built entirely of wood ; and while it has an exceedingly light and pleasing effect, is at the same time very strong and durable. The view of the interior, given in the frontispiece, (in which we have omitted a large portion of the vines, to exhibit the construction,) shows that the roof is supported by three rows of light posts, to which, in a very simple manner the effect of clustered columns is given.

The house rests on *locust* posts, which are as durable as a stone wall, while they offer no impediment to the free passage of the roots of the vines through the border on the outside or inside of the house.

In the ventilation of this vinery, Mr. VAN RENSSELAER has especially improved on other structures of the same kind, which we have seen elsewhere. The current of air follows the same course as usual in houses of this kind ; that is, it enters at the openings in the low wooden wall below the sashes, (boards hung on hinges,) and escapes at the movable sashes at the top of the roof ; a mode which passes a stream of fresh air, entering at one's command, over the whole growth of the vines, from the floor to the topmost branch.

These movable sashes are swung on centre pivots ; a mode allowing them to be more easily opened and shut than sliding sashes. Usually, sashes of this kind are opened and shut by means of *cords*, which, owing to the expansion and contraction of the material, effected by the atmosphere, is found a most imperfect mode.

Mr. VAN RENSSELAER has ingeniously obviated this difficulty, by employing a forked iron rod, (fig. 80) *a*, for opening and

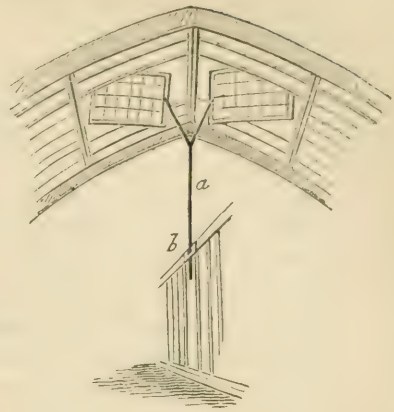


Fig. 80.

closing the sashes. This rod is about half an inch in diameter, plays, perpendicularly, up and down, through an iron socket, *b*, in the top rail of the trellis in the middle of the house. There is a thumb screw in this socket, which presses against the rod and fixes it at any desired height. Each branch of this ventilating-rod, where it is divided at the top, is only about a fourth of an inch in diameter ; so that the fork is so elastic as to give it sufficient play to allow the sashes to rise and fall easily and freely, while, by means of the thumb screw, they can be held firmly in any position.

We have omitted to say that this is a "cold vinery ;" that is, one in which no fire heat is employed,—a species of structure every day coming into greater favor in this part of the country. To grow the foreign grape in the highest perfection, it is only necessary to have the temperature of the house at that command which the full sunshine, and the admission or exclusion of the outer air, gives, without resorting to fire heat ; and so abundant and powerful is the sunshine in this latitude that the Muscat of Alexandria, which in many seasons requires fire heat to mature perfectly in Boston, ripens regularly and fully on the Hudson in a cold-house.

The vinery at Clinton Point is, as our engraving shows, a span-roofed house, 80 feet long, 18 feet wide, and 14 feet high. Mr. VAN RENSSELAER has deviated from the usual course, in placing it on a north-and-south, instead of an east-and-west line; and the result shows how wisely, for this climate, as the vines on both sides are equally exposed to the longest influence of the sun,—enjoying it from rising to setting; while at the hottest time of day they are all far less likely to be injured by any excess of heat than vines on the sunny side of a house facing directly south.

We have, so far, only spoken of the vinery itself; but, as we are always inclined to judge of the tree by its fruit, we may add that all that we have said of the merits of the structure, is fully sustained by the extraordinary growth of the vines, and the magnificent grapes which they have produced this season. We have only seen them equalled in one instance, that of G. R. RUSSELL, Esq., of West Roxbury, whose fruit bore off the palm at the Massachusetts horticultural exhibition last year.

The vines were only planted a year ago last July, and, of course, have not been allowed to bear a full crop this season; but

the strong, vigorous, healthy wood with which they have filled the house, and the wonderfully fine clusters of fruit, of the highest flavor, which they have produced, show the advantages of the best structure and the best culture. The *border* in which they grow affords, indeed, a supply of food which explains, in part, the extraordinary growth of the vines,—since it runs under the whole house, and extends over a wide space all round it, being 80 feet wide and 120 feet long, by nearly 3 feet deep, and very thoroughly manured.

The house contains a very complete collection of grapes, obtained from Mr. BUIST, of Philadelphia, and we were glad to learn that every vine had proved correct. Besides the standard varieties, we noticed *Deacon's Superb*—perhaps the most beautiful of all new white grapes,—the clusters very large, berries oval, and closely set. *Reine de Nice*, (not ripe when we saw it,) was also laden with large clusters of very handsome fruit. *Xeres*, another white grape, also attracted our attention by the size and beauty of its clusters; while some bunches of the *Palestine* grape, more than 2 feet long, made us comprehend the biblical account of the grapes of the land of Canaan.

THE MOUNTAIN ASH AS A STOCK FOR PEARS.

BY S. L. GOODALE, SACO, ME.

A. J. DOWNING, Esq.—*Dear Sir:* As I do not recollect ever to have met with any detail of *definite results*, from grafting the pear upon the Mountain Ash, I propose to give a sketch of a few experiments which have been partially successful.

Some years since, having a tree of the common American Mountain Ash which

might have been planted, originally, as an ornamental tree, but had become stunted, mossy, and anything but ornamental, I thought to cut it down; but when about to execute the purpose, recollecting that pears had been grown on this stock, I concluded instead, to graft it, and accordingly did so,—inserting scions in every limb. Deem-

ing it a matter of trivial consequence, no care was taken to select choice varieties, but used such as were nearest at hand; nor were the scions labelled. They all grew—some very rapidly; and a number of the largest were blown out by high winds in the course of the season. The spring succeeding, the branches, bereft of their scions, were supplied with a new set, which grew nearly as well as the first. These I protected with a rod, tied on by way of splint.

The same year one of the scions, inserted the previous spring, bore a cluster of fine pears, three of which were unusually large and handsome, and proved to be the Vicar of Winkfield. The same scion the next year bore eighteen, and the fourth year between fifty and sixty pears. The present year most of the scions are bearing fruit—some very abundantly.

It is evident, by a glance at the tree, that the different varieties are not alike suited with the stock; for while some seem quite at home, making each year a good growth and bearing heavily, others have grown but little since the first season, and bear moderately; others still appear sickly, neither growing or bearing, while a few have died out. And it may be worthy remark, that wherever one has *died* the limb also has perished, and looks as if *poisoned*; but the limbs from which scions had been removed by accident remained healthy, throwing out side shoots, and could be re-grafted.

With regard to the quality of the fruit produced, there has been as much variation as in the general appearance of the scions. The Fulton was very much as usual on pear stocks; Flemish Beauty above usual size, and very good; Doyenné somewhat less than medium size, perfectly fair, and of exquisite flavor. I am not sure whether

this is the White or Gray Doyenné. The scion was cut from an imported tree on quince, the fruit of which has a brilliant red cheek and some russet; but on the Ash, is of a delicate straw colour, with no russet. [The Gray Doyenné is all covered with russet, like the Fulton. *Ed.*] Vicar of Winkfield will average usual size, but varies much; some being very large, fair, and of regular form; others as large, ill shaped; and some smaller, and deviating in many directions from its usual appearance. With all care in ripening, they proved juicy indeed, but coarse, and not over third rate in flavor.

These are all which I have been able to recognize with certainty. A few have fruited and fallen off before ripening. Several kinds, evidently of winter pears, have been produced. One might have been Easter Beurré; it certainly was as worthless. All were meagre, ill shaped things, and defied every attempt to ripen them.

The tree which was the subject of these experiments, stands near the north end of my house, in grass ground; and the soil is the solid clay which forms the subsoil of the spot, and was thrown out in digging the cellar some twenty years ago. It is from 16 to 18 feet in height, and about 5 inches in diameter, and has never been manured, or even dug around.

Last autumn I budded small trees in the nursery, raised from seeds of the European Mountain Ash, with a variety of pears. All looked equally promising when headed down; but some would not start at all, others grew a little, and some very well. Of these, Glout Morceau and Vicar of Winkfield did best,—making 3 to 5 feet growth the present season.

Within a week or two past, I have budded several hundreds with more than fifty

varieties, in the hope of ascertaining something farther of its comparative value as a stock for the pear. My attempts to raise seedlings from the native variety have hitherto been unsuccessful; a small insect devouring the plants as soon as they appeared above ground.

I am satisfied that fair, handsome, and delicious pears can be produced on the Ash, and in soil uncongenial both to the pear and quince stocks; but whether it be pre-

ferable to work large trees in the limbs, or small ones in the nursery, whether to employ the native or foreign variety, or if there be any difference in them *as stocks*, what varieties are best suited to the one or the other, and upon what soils either will best succeed, are matters upon which I would gladly be enlightened, and think the subject offers a promising field for investigation.

S. L. GOODALE.

Saco, Me., August, 1849.

HINTS FOR THE FRUIT GARDEN.

BY R. ERRINGTON.*

GATHERING AND STORING FRUIT.—As matter appropriate to the season, we will endeavor to offer a little sound advice on this head; a subject which concerns equally the humblest cottager and the most wealthy proprietor.

The most important feature to consider at the outset of the question is the fact that all unripe fruit, such as apples and pears—fruit, we mean, in which the ripening process is not quite complete—ferment exceedingly when first housed; and that this fermentation, after spending itself for a fortnight or so, gradually subsides, and by the time the fruit has been a couple of months or so in the store-room becomes imperceptible, although it never entirely ceases as long as any moisture remains. The first requisite in fruit gathering is, of course, care in the handling. No one can suppose that an apple torn from the tree at random, leaving its footstalk behind, will possess equal keeping capabilities with one slipped off with that peculiar twist well known to practical men, and which saves the fruit from abuse. In almost all cases, the fruit requires lifting slightly afterwards, and good gatherers generally take hold of the bough or branchlet with the left hand to steady it, whilst with the right they gently raise the fruit upwards; this, if the fruit is as far advanced towards ripening as it ought to be, will generally cause the fruit

to detach itself. We do not mean to say that those who have extensive orchards, and who have, perhaps, many hundred bushels of apples to collect, can pursue such a nice operation through the whole of their trees; these have not the same object in view as the amateur or cottager, and make use of expedencies which would be quite incompatible with the objects of small gardeners. We, therefore, merely point to the course necessary to be pursued by those who look forward to a nice succession of fruit through a tedious winter and protracted spring, whether for home consumption or for sale.

Many instruments have been invented whereby to facilitate the gathering of fruit, and some of them will be found very useful helpmates to the amateur especially, who is in many cases not so well drilled in such rule-of-thumb matters as the ordinary gardener. Amongst them we would particularize a most convenient ladder, which is equally adapted for pruning standard trees, or for gathering their produce; the accompanying sketch will convey some idea of it. It is 12 feet in length, and may be thus described:—At A A are iron loops, by means of which the legs, C C, work in every direction, and by which they can be stretched to a proper distance: these legs fold up to the ladder when about to be removed,

[* From the Cottage Gardener, London.]

or when not required during use. The sharp point, D, enables it to be pushed up among the branches, and is useful for the operator to take hold of. B B are cords to act as an additional safeguard against the legs moving; they are, however, scarcely necessary.

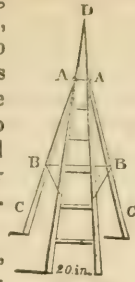


Fig. 81.

In addition to the above, what is termed the *Orchardist's Crook* is used by some.

The use of this implement is to seize the branch with one hand and draw it to the operator, and then, by putting the sliding piece over another branch, such branch is held in that position by the obliqueness of the line of pressure, which prevents the sliding piece from moving, thus leaving the operator free to use both hands in gathering the fruit. The following is a sketch of the implement.

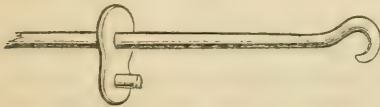


Fig. 82.

Some other modes exist for facilitating the gathering of fruit; but they, for the most part, have fallen into disuse, it being pretty well known that, after all, the chief point is careful handling. An earnest, active gatherer, with a long ladder, a pair of steps, and a hooked stick, will seldom call for more implements: a little off-hand sharpness, with much activity and care, will generally accomplish all that is needed.

BASKETS.—We must now come to the really practical part of the business—the getting the fruit off the trees, and storing it securely. The mode of gathering must depend in some degree on the character of the tree; thus, for instance, a dwarf-trained espalier needs but a common hand-basket—steps or ladder are scarcely needed. One thing, however, is necessary, provided more than one layer is put in the same basket, and that is cap paper: we place a sheet between each two layers in the case of choice dessert fruit. In ordinary cases we use hay, or, it may be, rhubarb leaves, but

we dare not recommend them; they are generally expedients forced on us by the hurry of the moment. To be sure, where there is a very small amount of fruit, and it is unpacked immediately, such will suffice; but if, unfortunately, baskets should stand a day or two through pressure of business, the hay will impart a musty flavor, and the leaves in decaying corrode the skin of the fruit.

In gathering from trees eight or ten feet in height a pair of steps becomes necessary; ordinary steps, such as are used by workmen in-doors, will suffice, or those figured in our present number may be put in requisition by those who wish to have everything very complete. It is necessary in this case, where only one person gathers, to have a basket with a pothook, the straight end of which being fastened to the cross handle of the basket by a cord, the hook end may be hung at pleasure on any part of the tree. Thus equipped, an amateur may move his own steps in any direction; ascend, gather a portion in his pothook basket, descend and place them in a larger basket—using a layer of cap-paper between the strata—ascend again, and so on until the gathering is complete. With regard to huge orchard trees the case differs slightly; here business is transacted on a much larger scale; even the rude wheelbarrow is oftentimes in requisition, or even a tumbril or light cart—but these are cases not often occurring with our readers; suffice it to say that much of the business is here transacted by means of very long ladders, and long hooked sticks occasionally, with sometimes a loud halloo of “Bill, mind that ladder don’t slip!” when Bill, to show the amount of his philosophy, will exclaim, in return, “Ne’er mind the ladder, lad—get the basket emptied, and let me have it! I can’t get on for want of baskets!”

Well, now we have gathered a lot of apples or pears, as the case may be, and what are we to do with them? This brings us to the storing part of the question. Before, however, proceeding in that part of the business, we feel bound to advert to the symptoms of ripeness.

SYMPTOMS OF RIPENESS.—This is a broad term to deal with, and no standard that

can be set up will apply equally to all fruits.

We will commence with the *apple*; here we must at once throw them into two classes, viz., table fruit and kitchen fruit. In the former, it is absolutely necessary that they remain on the tree until they have acquired that depth of flavor for which alone they are esteemed, and which constitutes them a separate class. Kitchen apples for long keeping, on the contrary, we would gather a little short of that degree of ripeness. There are two acknowledged criteria of ripeness universally admitted in the apple; the first, that coloured pips or seeds are an indication; the second, that on lifting the apple slightly up it parts tolerably easily from the tree without pulling hard at it. The last is mostly taken as the test, and we scarcely know of any better criterion. Much allowance, however, must be made for the kind of fruit; such as are inclined to be dry or mealy should be gathered somewhat earlier; those of a subacid character, and abounding in juice, should be allowed to become tolerably mature on the tree.

Pears.—More skill is necessary in pear than in apple gathering; these are so various in character, that the utmost care is necessary. We would, in most cases, advise the cutting a fruit in two, and judging by the pips; these should be about three parts coloured in the majority of cases. Any kinds, as the Easter Beurré, which are apt to become insipid, should, by all means, be gathered much earlier. Most of the Flemish kinds, especially such as the Beurré Rance, the Beurré d'Aremberg, the Glout Morceau, the Passe Colmar, the Winter Nelis, the Ne Plus Meuris, &c., should hang until late, unless on a south wall. We have known the Althorpe Crassane to excel all the pears in the garden, but in the majority of seasons it becomes mealy prematurely; this kind is so evidently bred from the old Swan's-egg, that it is folly to place it against a wall, unless a very cool one; such as this and the Easter Beurré, moreover, do not require that amount of sunlight which such as Winter Nelis and Passe Colmar flourish in; and for that reason we advise the summer spray to be left a greater length in order to shade the fruit.

Stone Fruit.—Few directions need be given as to these; almost every possessor of a garden, however limited, knows when to gather a peach, a plum, or a cherry. We may observe, however, that double care is necessary in handling these tender things; as for peaches, it is almost impossible to place two layers in a basket without serious mischief. We gather in flat bottomed baskets, placing a layer of soft "rowen" hay (second or third cut,) in the bottom of the basket—a single layer, as before observed—and these are carried at once to the fruit-room, where they are carefully placed on cap-paper. It requires nice judgment to ascertain when a peach is fit to gather; many persons let them fall on a prepared bed of litter or hay. This, indeed, is the old plan, and certainly not to be altogether condemned; we, however, prefer gathering them, relying on long experience, and depending much on the feel, as to whether they seem inclined to leave the tree when handled rightly. Colour is by no means a criterion; very pale peaches are sometimes more ripe than those which are high coloured.

MODES OF STORING.—These are various. In former days it was deemed essential to ferment apples, by placing them in conical heaps covered up. We opine that few will follow this practice now. We are, indeed, at a loss to conjecture what could have led to the practice; for, as to keeping fruit, they perspire, in the main, too fast: it is this very perspiration which wars against the keeping properties. To be sure, a certain amount is, doubtless, necessary; probably they could not undergo the chemical change necessary in order to give them a full amount of flavor without a continuous action of the kind. Be that as it may, our main business with keeping fruit is to arrest this principle in degree, and to this end the fruit-rooms of modern times are not required to be so excessively dry as formerly; added to which, darkness is well known in these days to promote the keeping of many kinds of fruit. It appears that light acts in conjunction with an advance of temperature in hastening the decay of fruit; and that even *light alone*, under all circumstances, has a tendency to promote perspiration or evaporation in vegetable tissue.

A uniform temperature is essential, and that a low one: we should say a steady temperature of from 40° to 50° is excellent as a general principle. Many of our Flemish pears, however, will not attain perfection under this degree of cold, for such we must term it. For these pears a special provision must be made late in the autumn, of which we shall soon have more to say;

in the meantime we take leave of fruit gathering by observing that the thinner apple or other stores are placed the better. When people throw them in heaps in these days, it may be considered a matter of necessity; much, therefore, depends on the convenience the parties possess. We shall return to this subject in due time for further operations.

R ERRINGTON.

FOREIGN NOTICES.

TORENIA ASIATICA, discovered by Toren, a Swedish clergyman, in China. When first I saw the flower, with its marbled-like, blended colours of blue, purple and light lilac, I thought it was among plants a gem of the purest water. It belongs to the 14th class and 2d order of Linnæus, and the natural order Scrophulariaceæ, and thus is somewhat allied to the beautiful and well known *Maurandya*. The blossom is tubular, and monopetalous in its corolla, which is generally divided into four segments. The two upper stamens are conspicuous in the throat of the flower, joined together so as to form a beautiful arch, while the anthers, cohering and projecting, might convey the idea of an ornamental architectural key-stone.

Soil.—It flourishes in equal proportions of loam and peat, with a dash of silver sand. The soil must be rough, and the pots well drained. A few pieces of charcoal would be useful for both purposes.

Culture.—If kept a second year in the same pots, the plants will bloom profusely, if, after examining their drainage, they are top-dressed with equal proportions of such soil and dried cow dung. A plant thus managed exhibited a profuse mass of bloom in the verandah from the end of April to the end of October last year. It was then removed, and as the aphids had begun to nibble it a little it was not preserved any longer. Having flowered so freely, I resolved upon saving a few more large plants that had been cuttings in 1847, but unfortunately in resolving to harden them well, they were placed on the floor of a vinery, and got more cold than was agreeable to them. I find that, even in attempting to keep them in a dormant state, the temperature should not be below 40°, and after the month of January they should have a little more, and all the light you can give them. I find, also, that many tender plants if inured to it gradually will stand much more cold before the day begins to lengthen than they will do afterwards. This fact is of importance to be known to those with limited means, who yet may have a forcing-house of some sort,

which they set in motion at the beginning of the year, as *there* many tender plants may get a lift for a couple of months. The *Torenia*s I have now in bloom occupy and completely conceal trellises between three and four feet square; others are trained on circular trellises, others as bushes, three feet in height and three feet through. A young larch or spruce tree, peeled in the spring, with all the twigs peeled and retained, makes a nice support for all such plants to ramble over. Grown in baskets, and suspended so that the long shoots hang gracefully down, studded with blossom, is also a very interesting method of treating them.

All these plants have stood in the glass-protected verandah for nearly three months, beautifully in bloom, but not equal to the old plant formerly alluded to. If the autumn prove mild, they will remain to the middle or end of October, and then, if I could afford them room and heat, they would make fine objects all the winter; and, fresh potted or top-dressed in spring, would be ready for another summer's campaign. All of them were cuttings at this time last year, potted into sixty-sized (three-inch) pots in September, removed with many other things to the shelf of a pine stove at the end of October, kept in a temperature of from 55° to 60°, stopped to make them bushy, shifted into a size larger pot in the end of February, moved into 12-inch pots in March, watered carefully so as not to deluge the unappropriated soil until the roots began to work their way into it, then removed under the shade of vines that had shortly before shown fruit, trained, and from thence taken to the verandah in the end of May.

Propagating.—I am putting in a few cuttings just now; they are easily struck either with or without bottom heat, but will root quicker and more surely if placed in a cold close pit for a week, and then plunged in a little bottom heat. But why take off cuttings now, instead of preserving an old plant, and waiting until spring? Simply because, without entering upon the physio-

logical bearings of the question, autumn-struck cuttings generally bloom more profusely than those propagated in spring. Without making the *Torenia* a peg on which to hang general deductions, several things must be attended to for obtaining large plants in such a short time.

1st. The plants were grown very fast under the partial shade of the vines; the flowering principle was brought into operation when exposed to more light. It should always be screened from very bright sunshine.

2d. The one-shift system, or nearly so, must be resorted to, and rough and lumpy soil be used. Those who shift their plants frequently, and use fine soil, must have *patience* in waiting longer for a large specimen.

3d. Watering must be given with judgment. If you cannot water them yourself, and must depend upon an assistant, who gives *everything* in turn its regular pouring from the water-pot, then you had better content yourself with frequent shifting. Liquid manure may be given *sparingly* the first season, *liberally* the second.

4th. The difference of treatment, as respects stimulants in the first and second year, is based upon the principle, that if applied the first year there would be fine growth but little flowering. After the comparative standstill treatment of winter, there would be a great tendency to blooming the second year, and, therefore, to maintain for a long period that blooming process, growth by stimulation must be continued. *R. Fish. Cottage Gardener.*

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BOUQUETS.—MR. RICHARD PAYNE KNIGHT, one of our most judicious writers upon "The Principles of Taste," has observed that "when many sorts and varieties of flowers are skillfully arranged and combined as in the flower-pots of Vanhuysum, they form, perhaps, the most perfect spectacle of mere sensual beauty that is anywhere to be found." At page 193, we gave a few hints how flowers might thus be "skillfully arranged and combined," but such of our readers as can refer to one of Vanhuysum's paintings of flowers will there see "philosophy teaching by example." They will observe that, in grouping his flowers, this most exquisite painter usually placed the brightest in the centre, gradually decreasing in intensity of colour from that centre to the edges of his groups. They will also find that in each of these lovely nosegays there is *one* prevailing colour. If it were not so, the group would appear patchy or spotty; and in forming our bouquets we shall find the importance of following the same rules. If a spray of bright crimson roses be in the centre, paler roses should be nearer to it on either side as well as above; if geraniums prevail in our group, the scarlet should be in the centre, and the lighter tinted varieties more distant from it, according to their hues.

One correspondent asks us "which we think should be the most prevalent colour in bouquets?"

But it is impossible to lay down any rule for this. All are beautiful, and the decision of which is the most so, varies with the taste of the judge, and that taste is influenced by such circumstances as associated colours, climate, and seasons. Thus, we thought, when about to settle for a time within the tropics, that green would be a cool and refreshing colour for the eye to rest upon; but, so far from this being the case, we found that crimson was the most pleasing for the furniture of our rooms. In some degree, this arose from the excess of that cold absence of color—white—which predominated in the objects around, from the costume of the native servants to the entire walls of the apartments. Yet it is the same we think, even in England. Here, a bouquet of the brightest flowers is more agreeable to the eye in our drawing-rooms than one of paler tints during the intense heat of a summer-day's noontide.

On these points we have received the following letter from a correspondent evidently accustomed to practice what good taste dictates:—

"One of the most beautiful bouquets I ever saw was composed of a mass of scarlet geraniums interspersed with fairy white roses, and surrounded by half-blown double white camellias. A very pretty bouquet for mourning may be formed of white flowers surrounded by double violets. No bouquet is good without a rich green and a dead white. The flowers should be arranged in masses. For instance, gather myrtle for the green, scarlet geranium, a large tea-scented rose or two, a gardenia or Italian jessamine (if not come-at-able, some common jessamine,) some golden calceolaria, and a bunch of nemophylla insignis or blue salvia, and we have the three primitive colours at once, which cannot fail to be pleasing to the eye, whether in painting, needlework, or the furniture of a room, in fact, in every artificial arrangement of colours.* I have never been able to make a *small* nosegay look well where purples and lilacs were introduced, unless all reds and blues were excluded. In a large vase, of course, the compound colours may be separated from the primitive, and look extremely well.† The flowers I have named are selected because they are found in every garden. *Crassula coccinea* would be a splendid substitute for the geranium; dwarf magnolia for the rose, and blue achimenes for the salvia. The plumbago larpentæ is also a lovely flower for the purpose. A bouquet for the hand should be formed by winding a long string round the centre flower and successively round each as it is placed which will bind them firmly together."

A physician, who wishes "*Vibgyor*" to appear as the shadow of his name, observes in another letter now before us:—

"Transplanting plants in flower, to accomplish various desired effects in the way either of harmo-

* The three primitive colours, from which all others may be composed, are red, blue and yellow.

† The compound colours, so far as flowers for bouquets are concerned, are orange, green, indigo, and violet.

ny or of contrast, brings to my mind a work of Sir D. Brewster, on *Natural Magic*, or some such popular subject, where he gives very valuable hints on this matter. As well as I can remember his hints, I believe that he takes the seven old colors of the rainbow; and as a general rule, each color harmonizes with the one next before or after it, and contrasts well with the third or fourth from it.

We all know that the colors of the rainbow are arranged as follows, beginning from the inner edge of its arch:—Violet, indigo, blue, green, yellow, orange and red. These, if arranged in what may be termed “The Rainbow Round Robin,” will stand thus, and illustrate the author’s statement.



V harmonizes with I and R, and contrasts with G and Y; Y harmonizes with G and O, but contrasts with V and I, and so with the others.

“I have a great idea that this would make a good design for a set of flower-beds, each of one colour, and they might be surrounded by seven more, the outer set contrasting with the inner, and the centre might be white.”—*Cottage Gardener*.

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THE CHRYSANTHEMUM IN CHINA.—The Chrysanthemum is the Chinese gardener’s favorite flower. There is no other with which he takes so much pains, or which he cultivates so well. His Camelias, Azaleas and Roses, are well grown and well bloomed, but with all these we beat him in England; in the cultivation of the Chrysanthemum, however, he stands unrivalled. The plants themselves, seem, as it were, to meet him half way and grow just as he pleases; sometimes I met with them trained in the form of animals, such as horses and deer, and at other times they were made to resemble the pagodas, so common in the country. Whether they were trained into these fanciful forms, or merely grown as simple bushes, they were always in high health, full of fresh green leaves, and never failed to bloom most profusely in the autumn and winter.

The method of cultivating the Chrysanthemum in China is as follows. Cuttings are struck every year from the young shoots, in the same manner as we do in England. When they are rooted, they are potted off at once into the pots in which they are to grow and bloom; that is, they are grown upon what would be called by our gardeners “the one-shift system.”

The soil used in potting is of a very rich description. About Canton it is generally obtained,

in the first instance, from the bottom of lakes or ponds, where the *Nelumbium* or *Water-Lily* grows. It is then laid up to dry and pulverised for some months, when it is mixed with old night-soil taken from the manure tanks found in every garden. A heap of this kind, after being laid up for some time and frequently turned over, is in a fit state for potting the Chrysanthemum. Manure water, taken also from the tanks already noticed, is liberally supplied during the growing season, and its effects are visible in the luxuriant dark green leaves which cover the plants.

In forming the plants into nice compact bushes, which (with due deference to Chinese taste,) I think much prettier than animals and “seven-storied pagodas,” their system is as follows: The plants are trained each with a single stem; this is forced to send out numerous laterals near its base, and these are tied down in a neat and regular manner with strings of silk thread. By having the plants clothed with branches in this way, and by keeping the leaves in a green and healthy state, the specimens never have that bare and broom-headed appearance which they often present in England when they are taken into the green-house in winter.

About Shanghai and Ningpo the Chrysanthemum is still better managed than it is near Canton; but the success which attends it may also be attributed, partly at least, to the more favorable nature of the climate, the plant being indigenous to the central or more northern parts of the empire. The system of cultivation is nearly the same; the main points attended to being those which have been noticed, namely, choosing a rich soil, planting at once into large pots; training to a single stem, and inducing it to send out numerous lateral, and giving liberal supplies of manure water during the growing season. The Chinese are fond of having very large blooms, and, in order to obtain these, they generally pick off all the small flower-buds.

In China, as in England, the Chrysanthemum flowers during the winter months. When in bloom it is in great request among the people, and is used in the decoration of court-yards, halls and temples. It is everybody’s plant, and blooms alike in the garden of the lowly Chinese cottager as in that of the blue-buttoned mandarin.

Although we are indebted to China for the parents of those varieties of Chrysanthemums which now enliven our gardens during the dull months of winter, yet, strange to say, the progeny is more numerous in Europe than in China itself. Some of those beautiful kinds raised by Mr. Salter in France would be much admired even by the Chinese florist. It is a curious fact, however, that many of those kinds, such as *formosum* and *lucidum*, which were originally raised from seed in Europe, are also met with in the north of China. *R. F. Gard. Chron.*

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THERE once was a time when rules for making a compost heap were as complicated as a Dutch

prescription. Our fathers thought it impossible to grow a plant without putting it into an *omnium gatherum* especially contrived for its own separate use.

"If you would grow an *Auricula* well," said an old gardener, "you will make your compost of ancient cow-dung, fresh sound earth, rotten leaves, coarse sea or river sand, decayed willow wood, peat, and wood ashes. You must have half the first, one-sixth of the second, one-eighth of the third, one-twelfth of the fourth, and one-twenty-fourth of each of the three others." This was declared to be of the utmost importance; no departure from the proportions was permitted. A man might as well have thought of planting Tulips on any other day than the 24th of October, or the 25th, if the 24th was a Sunday.

To this day some relics of such superstitions are traceable in gardening operations. A mysterious virtue is ascribed to particular mixtures of peat and loam and leaves and sand, or to each of these separately, or to others. We may one day endeavor to point out what there is of real, and what of unreal, in the evidence upon which such opinions are founded. For to-day we confine ourselves to PEAT.

In the belief of some very good gardeners there are certain kinds of peat possessed of such marvellous qualities that plants have but to get their roots into any one of them, and further care is needless. These qualities are popularly believed to depend upon the peculiar chemical conditions of such soil, upon a particular per centage of iron for instance, or a certain dose of some other unknown matter which chemical analysis might reveal. We believe no such thing. The different qualities of peat depend upon their physical differences and upon them alone. In one a large quantity of fibrous matter exists, in another very little; the former is, therefore, more permeable to air than the other, which may be an advantage. In another sample there is much sand instead of fibrous matter, and this constitutes a material physical difference; for such a sample will be perfectly penetrable by air and moisture without the liability to dry up which belongs to an over-fibrous material. By such differences are the various kinds of peat distinguished, and in general by nothing else of the smallest importance to plants.

It is part of the horticultural faith of many men that peat is for many purposes indispensable: and that for *Rhododendrons*, *Azaleas*, and similar "American plants," no substitute can be found. Here we find another piece of superstition. Peat is a mixture of certain decayed matters, and any other mixture of similar decayed matter in the same proportions answers all the purposes of peat. Rotten leaves, dead branches, roots of wiry grasses, fibres from the heather, or such wild plants, and a certain proportion of sand, form the constituents of the peat best suited for gardening purposes. If such a mixture can be made artificially, it will be just as good as if it had been

scraped from a moor. It will have the requisite penetrability; it will be as rich in saline and decaying matters; it will as much abound in that humus or black substance from which plants so largely derive their nutriment.

The truth of this assertion will probably be questioned; for men are slow to believe that they have been carting from a distance, under the name of peat, the very substance which is wasted in the wood-yard at their door. We therefore beg to direct attention to a case with which we have been favored by a correspondent near Devizes, in which it is shown that the decayed woody matter of an old timber yard is in all respect equal to peat for the growth of *Rhododendrons*. We believe it to be better; because it is just as yielding to the slender roots of those plants, and much more retentive of moisture, in which they greatly delight. If the lovers of gardening would as frequently think for themselves as our correspondent has done, they would, we doubt not, discover that the indispensable necessity of peat is only one of the crop of prejudices which the progress of knowledge has to trample down.—*Gard. Chronicle*.

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MR. RIVER'S NURSERY, SAWBRIDGEWORTH.—An hour's ride by a fast train on the Eastern Counties Railway brings the visitor to the Harlow station, which is scarcely half an hour's walk from this nursery. The latter is situated in a pretty part of Hertfordshire, on gently undulating ground. The turnpike-road to Cambridge and Norwich bounds it to the south-east, and is 12 feet lower than the frontage near Mr. River's house. The latter is approached by three terraces, each laid out in beds of roses, and the banks on each side planted with climbing roses pegged to the ground. Standing in front of the house is a lawn sloping to the road, on which are grouped dwarf China and Bourbon roses on their own roots, also standards; and we noticed here a dome of roses, 10 feet in diameter, covered with the white flowers of different varieties of *Sempervirens*. This group receives no pruning beyond what is necessary to keep it within bounds, and certainly nothing could have a better effect than it had. A fine specimen of the Fern-leaved Beech, about 50 years old, grows close to the drawing-room window at the south-west end of the house, and near it several rows of 5 feet yew hedges, which serve as shelter to the young pot plants. To the right is a steep bank, consisting of hard, white clay, and turfed over. This has been formed into a bank of climbing roses, and a most beautiful bank it makes. On the top is a row of Ayrshires, *Sempervirens*, and Boursaults, planted 6 feet apart in a straight line; these are trained to stout larch poles, about 7 feet in height, and they are never pruned. In front, is a row of climbing roses, varieties of *Sempervirens* and Ayrshire, worked on short, stout stems, from 2 to 2½ feet in height. These are also never pruned; the branches are allowed to droop to the ground. In front, again, on the

steepest part of the bank, climbing roses (Ayshires and Sempervirens) are planted, and left to ramble as they please. Although past their best, these were all in flower, and the effect they produced (looking at them from the road) was really admirable. On the side of a walk, leading from the house into the nursery, we remarked a row of standard climbing roses, consisting of Myrianthes, Princess Marie, crimson Boursault (a magnificent tree, with a stem 9 inches in girth,) Bennet's Seedling, &c. No form in which the rose could be trained could have a better effect than these weeping rose trees, which are never touched with the knife. Immediately behind Mr. Rivers's house were numbers of pans full of seedling conifers. Mr. R. raises all his seedling conifers in the open air; they never at any time receive artificial heat. They are sown in pans in loam, a piece of perforated tile is placed over them till they begin to come up; it is then removed, and nothing more than common routine treatment is given them. Near these were two houses full of young vines, and at the end of one of the houses here we noticed a nice stock of young plants of the Stanwick Nectarine, which has been committed to the care of Mr. Rivers to propagate. They were worked on peach stocks, and are thriving well. Mr. R. is of opinion that the peach will prove a valuable stock for both peaches and nectarines for pot culture, as plants can be fruited on it in a very small state. We saw peaches in 4-inch pots quite healthy, and Mr. R. thinks they might be fruited well in 8-inch pots. Of roses in pots, there were many thousands; quantities of them were plunged in saw-dust on the surface of beds in an exposed situation. All were in capital health. In a number of brick beds here, 4 feet wide, we noticed a select collection of junipers, among which were *J. excelsa*, *J. oblonga pendula*, *alpina*, *squamata*, and others; and by the side of them were apples in 6-inch pots, on the true French Paradise stock (*Pomme de Paradis*), which Mr. Rivers thinks is the same as the dwarf apple of Armenia. It is very dwarf, and rather tender.

Passing one of Mr. Ker's trellises, figured at p. 827, 1848, on which peaches, cherries, plums, and pears were growing well, we arrived at a plantation of different kinds of gooseberries, intermixed with which were fiberts and nuts, having straight clean stems 4 feet high. Managed in this way they fruit well, look ornamental, and produce no suckers. In order to give young peaches a better climate than they would otherwise have in the open ground, Mr. Rivers has had a number of dwarf walls put up, about 3 feet high and 4 feet apart, on which the trees are trained, and he finds the plan an excellent one. These dwarf walls or palings consist of the staves of tallow casks, bought of the Russian tallow merchants in London, nailed to upright stakes driven into the ground; they are black in colour, having been painted over with gas-tar and lime. The same contrivance on long stakes has been applied to the

training of "rider" peach trees. Some of the young peach trees here were stated to have been covered with curled leaves in spring, but they have been perfectly cured by cutting down the shoots; the trees have made new ones, which will ripen well and are perfectly free from curl or speck of any kind. The same kinds of boards as are used for the peach trees laid against a steep bank, formed a suitable place for training pear trees on, which are kept in a small state by being on quince stocks, and by root pruning. In front of these was a plantation of Mr. Rivers's large fruited monthly raspberry, both in flower and fruit. It produces the latter from lateral shoots, which it puts forth from every joint; and in this respect, as well as in the size and flavor of the berry, it differs from the old variety known as the double bearing raspberry. This nursery being loam on sand is quite a vine soil, and Mr. Rivers is trying some important experiments with vines in the open air, on banks covered with flints, and on pillars, on which the vine has a very ornamental appearance, even independent of fruit; but Mr. Rivers believes that it will ripen fruit managed in this way, and to that end plants have been procured from the very northernmost parts of the vine countries for these pillars. Amongst them Picpoule Noir, Moustardie, Raisin de Valentin, and numerous others, were in bloom, and promised to bear well. Mr. Rivers is a strong advocate for the growing of pears in a pyramidal form, and on quince stocks. He has them planted all over his nursery in rows running from north-east to south-west. The rows are 24 feet apart, and the trees stand 5 feet apart in the row. By this arrangement an open border, unincumbered by overhanging boughs, is left between the principal rows. Many of the trees were five years old and 8 feet high, well furnished with branches from the base, and bearing fruit. They are all shortened in twice a year, viz., June and August. In order to obtain dwarf plum trees, Mr. Rivers is trying some experiments with the plum on the sloe, which is likely to prove a valuable stock for it; and with a view to get dwarf cherry trees, he employs *Cerasus Mahaleb*, or "Perfumed Cherry," as a stock. His object is to have fruiting trees of all sizes and of all sorts, in order that the purchaser may be enabled to buy a tree just in whatever state he chooses. He has cherries a foot high that have borne nearly a quart of fruit, and plums in fruit not more than 18 inches high. Mr. R. is striving to obtain an improved race of hardy late pears, and in order to prove the seedlings quickly he plants them in rows with a quince stock between each plant; the top of the seedling is taken off and grafted on the stock, and in this way much time is saved in this important operation. Before leaving the fruit trees, of which Mr. R. has an enormous collection, and he has a quarter for specimen trees of all the sorts cultivated, we should mention that he has found salt applied at the rate of a quarter of a

peck to a tree beneficial to the growth of plum trees.

A quarter is planted with different kinds of oaks, in order to prove their respective hardiness. Among them was a seedling nearly evergreen, about 15 feet high, having the habit of a Lombardy Poplar. Of hardy lawn trees and shrubs, Mr. Rivers has an extensive collection, and a great many different kinds of weeping trees. We noticed a collection of different sorts of Brooms and Cytisus grafted on the purple Laburnum. He has new weeping elms, new weeping birches and thorns, and a weeping red-flowered chestnut (*Pavia humilis pendula*.) We observed mulberry trees 40 years old, and with stems 12 inches in girth, which had been transplanted, and were doing well, showing how retentive of life the mulberry is. These had been cut well in, root and top. Mr. Rivers has just put up a cheap house for propagating Magnolias in, and growing vines, &c. It has no back wall except a beech hedge; the roof is supported by stakes driven into the ground 7 feet high at back, 2 feet high in front,

with a 14 feet rafter. There is a sunk path up the middle, and on the right and left beds, which are thus raised up near the glass. The rafters are 20 inches apart, and glazed with sheet glass; and owing to the extreme ventilation no burning is ever experienced.

We now come to the roses, of which Mr. Rivers has an amazing quantity. We think we understood him to say that he had 10,000 standard Hybrid Perpetuals and Bourbons alone, chiefly worked on the Manetti stock, and all clean and healthy. No aphid or blight was to be seen. Mr. R. informed us that he thought the air too bracing for these pests, which seldom or never trouble him; and when they do their visit is but short. It would be vain to attempt to describe what we saw among roses; but we cannot pass over unnoticed a plantation of 500 standards of *Géant des Batailles*. This was truly an interesting sight, the glowing colours of this fine rose reflected by the rays of the setting sun, had a striking effect. It is one of the best of roses, being both early and late in flower.—*Gardeners' Chronicle*.

DOMESTIC NOTICES.

GRAFTING AND DWARFING.—*Dear Sir:* Although I have attentively read every number of the *Horticulturist* since its publication, I have failed to satisfy myself upon the subject contained in the following questions, and would therefore request you to do me the favor of answering them in your valuable Journal.

In working peaches on plum stocks, is it advisable to bud at the surface of the ground, or standard high? [At the surface of the ground; and because the growth of stem and stock, correspond more closely than when budded standard high. *Ed.*]

Wherein are plum stocks superior to their own stocks, for growing peaches? [They are not superior for *standard* trees, if *healthy* peach stocks can be had; for trained trees they are considered superior, partly because the trees grow more compactly, and partly because, from the hardier character of the plum stock it is less liable to disease. *Ed.*]

Can apricots be dwarfed, and by what process? [By budding it on the Sloe. *Ed.*]

Which is the most desirable for dwarf, or pyramidal apple trees, Paradise or Doucin stocks? Truly yours, *C. N. R. Milan, O., August 28th, 1849.*

[We cannot better answer the latter query than by quoting Mr. RIVERS' remarks in his "miniature Fruit Garden." "On the continent, there are two or three varieties of the apple known under the name of the Paradise apple: viz.—the Pomme de Paradis, the Pomme de St. Jean, and the Doucin.

These are all called Paradise stocks in England, but on the continent the first and last are used for distinct purposes—the first for dwarf bushes, the latter for pyramids. The Pomme de Paradis, (Paradise apple of the French) is *exceedingly* dwarf in its habits, and too tender for this climate, unless in very dry and warm soils. Out of 2,000 imported in 1845, more than one half died the first season, and two-thirds of the remainder the following one. They were planted in fine fertile loam, favorable to the growth of apples, and on which the Doucin, or English Paradise, planted the same season, grew with the greatest vigour. The same result attended an importation of 2000 in 1846: But very few of them are alive, and the apples grafted on them are exceedingly dwarf. The Pomme de St. Jean is more hardy than the true Paradise, not quite so dwarf, and yet not nearly so vigorous as the Doucin; it is the latter, or English Paradise, which is most deserving of our attention for forming fruitful pyramids, the culture of which is very simple."

We may add to the above that as the climate of Ohio is more like that of France than that of England, there is no doubt that the true Paradise stock, (Pomme de Paradis) would succeed well there. The Doucin or English Paradise is the stock usually employed for dwarf apples in this country. *Ed.*

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HORSE YOKE.—*Dear Sir:* In your March No., I noticed some person inquiring where the horse neck yoke, invented and patented by Dansworth,

could be found; I would inform the person that they can be procured in Buffalo, at HERSEE & PIMMERUE'S, 307 Main street. I consider it a good article, and one that will answer every purpose on a farm; it is just the thing for those that are cultivating fruit on a large scale. You can plow close to your trees without injuring them, which is not the case with the old way, where you use whiffletree; it also answers well as a cheap harness for farm wagons and sleighs. Yours, respectfully, J. P. *Checktougau*, Aug. 20, 1849.

HORTICULTURAL PARTY.—We learn that our friend, Dr. BRINCKLE, whose zeal and knowledge place him among the foremost of amateur horticulturists, held at his residence in Girard Square, Philadelphia, on the evening of the 13th September, one of the most agreeable horticultural *soirees* ever enjoyed in this country. Had we been able to accept his kind invitation, we would gladly have noticed this reunion more fully; but we now are forced to content ourselves with the following memoranda, kindly sent us by one of the guests. Ed.

During the horticultural exhibition, we have had rather more than the usual supply of fruits and flowers; but the climax of the gala was last evening, when Dr. BRINCKLE, to do honor to the occasion, and to exhibit some remarkable fruits and wines that had been provided by his liberality and that of his numerous friends, gave a "Horticultural Party" at his elegant and hospitable mansion in Chestnut-street, where were assembled the amateurs, the gardeners, and the friends of liberal culture. J. P. CUSHING, Esq., of Boston, kindly forwarded a liberal supply of his best grapes, pears, &c., and the tables were in addition, ornamented with every flower now in bloom, the whole forming a fete such as the writer would be glad to see frequently repeated. As an evidence of the good things of this region, I beg to insert in the pages of the Horticulturist the following list of fruits exhibited at a private evening party on this single evening:

Oranges and Figs.

Citron melons, two varieties.

Water melons—Mountain Sweet, Mountain Sprout.

Flowers—Very beautiful pyramids and basket-bouquets for the table, from Messrs. BISSETT, KILVINGER & RAABE.

Chinese Preserves—Finger fruit, Mangostan.

Native Wines—Longworth's Sparkling Catawba, Longworth's Catawba or Hock, Buchanan's Hock, Resor's Cape.

Foreign Wines—Washington Morton's Champagne, Geisler's do., Wirts & Co., do.; Hockheimer, two vintages; Weinnengen; very superior Hock presented by Mr. LENNIG. Chambertin, Port, Sherry, Madeira.

Grapes—Black Hamburg, very large, Hans-trells, do., White variety. *Nectarines*—New White, Early Violet. *Pears*—Bartlett, Golden

Beurre of Bilboa, Flemish Beauty. All the above from Mr. CUSHING.

Grapes—Lashmere's Seedling, Chasselas de Fontainbleau, Muscat Muscadine, White Frontignan, Grizzly Frontignan, Raisin des Carmes, Decan Superb, Cambridge Botanic Garden, Victoria, Black Hamburg, Black Prince, Fromental, Frankenthal. The above from Mr. BUIST. Many other fine varieties were presented by Messrs. CLEVELAND, BAXTER, JOHNS and COPIA.

Pears—Petre, Chapman, Lodge, Pennsylvania, Moyamensing, Hanover, Seckel, Seckel from original tree, Autumn Bergamot, Zantzingen, White Doyenne, Gray Doyenne, Chancellor, Orange, Steinmetz' Catherine, D'Angouleme, Julienne.

Peaches—Many varieties.

An interesting item in the evening's proceedings consisted in testing the American wines. The labels from these and the best foreign brands were removed, and private marks attached. The best judges in the city were present, and the result would have been exceedingly gratifying to Messrs. LONGWORTH, BUCHANAN and RESOR, had they been present, and I may add, will do much in introducing the Cincinnati wines into use in this region. Yours, S. *Philadelphia*, September 14, 1849.

NORTH AMERICAN POMOLOGICAL CONVENTION.

[We were, much to our regret, prevented by severe indisposition, from attending the convention at Syracuse, which we learn was a satisfactory one. We are much gratified to see by the following report, that resolutions were passed which we sincerely hope may lead to a consolidation of the two associations in one permanent one of a national character. Ed.]

This is the second session of this Convention, and was well attended. The display of fruit, though not extensive, was still very fine.

The meeting was called to order by Mr. DOUGALL, of Canada West, who nominated Col. BENJAMIN HODGE, of Buffalo, as Chairman. On motion of Dr. HERMAN WENDELL, Mr. M. B. BATEHAM, of Ohio, was appointed Secretary, *pro tem*. The call for the Convention was then read by the Secretary, and a committee of five appointed to nominate permanent officers.

On motion, all gentlemen were invited to sit as members, who felt an interest in fruit culture.

The committee consisted of the following gentlemen:—N. Goodsell, F. R. Elliot, Chas. Downing, A. Bryant, and J. W. P. Allen.

The Convention took a recess.

After being called to order by the Chairman, the Secretary called a list of the names of members of the Convention, which we must omit for want of room.

The committee on nominations, reported the following gentlemen as permanent officers. The report was adopted.

For President, Dr. J. A. KENNICUT, of Ill.
1st. Vice Pres., JAS. DOUGALL, of Canada West.
2d. do Dr. HERMAN WENDELL, N. Y.

- 3d. Vice Pres., C. M. HOVEY, Mass.
 4th. do M. B. BATEHAM, Ohio.
 5th. do H. P. BYRAM, Kentucky.
 6th. do JAMES G. MAPES, New Jersey.

Secretaries—F. R. ELLIOTT, B. HODGE.

The President, on taking the chair, thanked the Convention for the honor they had done him.

The report of the committee on organization, was received, read and accepted. The report contained the rules for the Society, and the appointment of a committee on seedlings, which appointment was made by the President.

Reports from New-York, Vermont, Pennsylvania, Michigan, Illinois, and Ohio, were received.

The President suggested that the committee proceed at once to the examination of fruits, as they were perishable articles.

Dr. Herman Wendell, of Albany, offered a preamble and resolution in reference to the consolidation of the two conventions, so that but one meeting might be had in a year, which was adopted. The President appointed a committee for the purpose of conferring with the other society. The following is the preamble and resolution:—

Whereas, the National Pomological Convention held at Buffalo, in September of 1848, under the auspices of the N. Y. State Agricultural Society, composed of delegates from 15 States and the two Canadas was the *first* general Convention of such character ever convened in the United States, and and whereas that convention unanimously resolved that hereafter an annual Convention of like character should be held under the title of the North American Pomological Convention, that the first meeting with that title should be held in the autumn of 1849, at the place where the great fair of the New-York State Agricultural Society was to be held, and on the day succeeding the close of said Fair, therefore we consider this Convention entitled by courtesy to perpetuate itself, but being aware that a convention of an analogous character was held in the city of New-York in the autumn of 1848, and that said convention organized itself into a permanent association under the title of the American Congress of Fruit Growers, which is to assemble in said city of New-York, on the 2d day of October next, and believing that the advancement of Pomological Science, as well as the inclination and interests of Pomologists throughout this continent, will be best promoted by a merging of the two apparent conflicting associations into one general organization for future operations, therefore, be it

Resolved by this Convention, that a Committee of five be designated by its President, whose duty it shall be to attend the coming session of the American Congress of Fruit Growers, and confer with the said congress, or a committee whom they may select in relation to the meeting of the two associations, and as far as this convention is interested, the settling of questions of priority of organization, places of next meeting, and title of Association, shall be left to the committees whom

the two organizations may appoint, and that we will exert ourselves to induce a general attendance of those interested, wherever the joint committee determine the next Convention shall be held, but we cannot omit giving it as our opinion, that the cause of Pomological Science will be most promoted, and the feelings of the great mass of Pomologists best satisfied if the next meeting should be held at Cincinnati, or some other western city.

The President then named Dr. Herman Wendell, Prof. James G. Mapes, F. R. Elliot, Chas. Downing, and Dr. J. A. Kennicut, as the committee. *Syracuse, Sept. 14.*

.....

HINTS IN NURSERY CULTURE.—*Respected Sir:* As one of the main objects of the Horticulturist is to disseminate information, and as I have derived many valuable hints from its pages, I propose to give a little of my experience in the nursery business with some reasons for it. There appears to be considerable difference of opinion and of practice, in procuring stocks to graft or inoculate upon in different nurseries. I have been much interested in many articles, relating particularly to the best mode of propagating trees in the nursery, and in none of them more than that of H. E. HOOKER, of Rochester, in the last number. This is a capital practical article, and is worth more than a bushel of theory. It is this kind of information that we practical men want.

The plan that I prefer in raising stocks is the following, for apple, pear, plum and cherry; (for peach, the kernels are planted where they are to be inoculated.) The seeds, shortly after being obtained, are mixed with sand, and put in boxes and buried deep in the ground, except the plum and cherry, which are placed in reach of the frost in winter. The ground is prepared in the fall or beginning of winter, by being thrown up in ridges of the same width as required for the beds. By this means, the ground can be worked much earlier in the spring, which is important, as the seeds begin to sprout with the first appearance of warm weather. The seeds are sown in drills across the beds, and if too thick are thinned out after coming up, the object being to have them well grown in one season. By frequent stirring the ground and keeping them clean, they are many of them by fall, one-fourth of an inch in diameter, and from 18 inches to 2 feet in height. They are taken up late in the fall, and buried where they can be reached at any time. Towards spring they are grafted, except those that are too small; these are planted in the nursery in the spring to inoculate in the latter part of summer. In grafting, the stock is cut off near the surface of the ground, at a smooth place, and a graft about three inches long, inserted by cleft grafting. The larger and more thrifty growing stocks are selected for the more thrifty growing grafts; by this means, it is probable that both are better suited, than if both large and small stocks were grafted indiscriminately with free growing

sorts. The roots are cut off to about 6 inches long, and then immediately packed in boxes, and covered with earth to near the top of the graft. No wax is needed; the earth being placed around the junction of the stock and graft is quite sufficient, and the shoulder of the stock being small, is soon grown over. Perhaps whip grafting would form a smoother union at first, but after a couple of years growth, the difference would hardly be perceived, and no advantages obtained by it, while cleft grafting is much easier, as no tying or wax is needed. The grafts are kept in the boxes till a suitable time to plant out in the nursery, and by this plan we need not be hurried on account of weather, as they may remain in the boxes for some weeks after they begin to grow, by keeping the earth moist about them. They frequently grow 2 or 3 inches before planting, and appear to do quite as well as if planted before the buds opened. They are planted by a dibble, and if the ground is then dry, we pour a little water at each root to settle the earth better about them, and again cover up the top of the stock. Some nurserymen in this state, particularly foreigners, recommend and practice themselves, pinching off all side shoots at first, so as to make a clean stem. This practice I do not approve; the stems will grow stronger by leaving the side shoots on for a while, and then trim gradually. The leaves are as necessary to the formation of wood on the stem as the roots are, and though we may compel the stem to grow taller, it will be at the expense of the size of the body, and the tree will be weak, and not grow so freely afterwards. By thus treating them and keeping them well cultivated, they will often in 2 years, or in at least 3 or 4 years, be large enough to transplant. I recommend well grown two-year-old trees; these can be taken up with but little loss of room, and when well planted, will in four or five years generally make larger and finer trees than older ones. In taking up large trees for transplanting, we necessarily deprive them of many of their roots, and the well planted do not for some time fully recover from the shock, while the smaller trees grow up almost without any check. It seems to me a very mistaken idea to want large trees to plant an orchard with.

I entirely concur in H. E. HOOKER's last paragraph, and see no way to obtain good fruit except by "root-grafting," even admitting such trees did not live so long. Who would prefer seedling fruit trees when hardly one in ten would be worth the ground it stood upon, to having the best of every kind in its season. Thy friend and well wisher, *Yardley Taylor. London Co., Va., 9mo. 15th.*

.....
COLORS GLASS.—The progress which the art of coloring glass for ornamental purposes has made in this country is very encouraging; indeed, windows and sight lights are now produced in this city by EUSTON & WEER, which leave little to be desired, except it be greater encouragement for the

makers. They paint and burn in every variety of pattern and in excellent taste. It is only necessary to give them a drawing by mail or express, with the size of your proposed window, and it will be immediately executed.

In a villa or cottage, even a single stained window at the staircase landing, will produce an effect which nothing of the same cost can do. *J. J. S. Philadelphia, Sept. 14.*

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THE ELIZABETH CHERRY.—*Mr. Downing:* From my memorandum book I extract and forward you the following drawing and description of a new variety of cherry, of which I have had some knowledge these three years past, but more satisfactorily this past cherry season. The age of the original tree is sufficient guarantee that no change may be expected in its quality or bearing properties.

This cherry was grown from seed by CALEB ATWATER, Esq., of Atwater, Portage county, Ohio; and was named by Prof. KIRTLAND after Mrs. Atwater, from respect for that lady. Fruit borne in twos and threes.

Description.—Size large, or about the same as Large Red Bigarreau.

Form rounded, heart shaped, flattened upon the sides.

Colour dark rich red, when fully ripe, mottled slightly with a dark purplish red.

Surface generally smooth and regular.

Stem of medium size, generally about 1½ inch long, but sometimes 1 inch, and, again, 1¼ inch, planted in a fair, regular basin.

Flesh half tender, yellowish, slightly tinged with red, juicy, pleasantly sweet, and with a fine delicate flavor.

Pit ovate, rounded, of size proportioned to the fruit.

Ripens, in usual seasons, about the same time as Arden's Early Heart; or, say, 10th to 15th June.

History and Growth of Tree.—For this, I am indebted to the originator of the variety, Mr. ATWATER, who writes me as follows:

"The original tree is 25 years of age. Pit brought from Connecticut in the fall of 1823. It commenced bearing when quite young, and has ever continued an abundant bearer. The fruit hanging in rich bunches, giving to the tree a glorious appearance when the fruit is ripe. Growth upright, pyramidal, rounded.

"Soil and position of original tree is a clay loam, rather thin, with a strong hard clay subsoil, situated upon the north side of a building."



Fig. 83.



Fig. 84.—Side View.

Mr. ATWATER has several more seedlings,—one a black cherry, of which he thinks highly; but I have not seen it in perfection. Prof. KIRTLAND has also several others that promise well, but for two causes will not, at present, be brought forward. The principal one of which, is a wish that those already brought out may become tested in various sections of the country, when, if they prove as valuable abroad as at home, the public will have more confidence to receive what yet remains unnoticed. Yours, *F. R. Elliott. Cleveland, Ohio, September, 1849.*

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[We owe the following notes and translations, from some standard German pomological works in our collection, to our neighbor, J. W. KNEVELS, Esq. They will serve to give our pomological readers an idea of the minute precision of the best German writers. ED.]

POMOLOGICAL NOTES.—*A. J. Downing, Esq.*—Dear Sir: The pear we term *Beurré Bosc*, is described in the “*Kernobstsorten des Südlichen Deutschlands*” under the title of *Bosc’s Early Gourdshaped Pear*, (*Bosc’s Frühzeitige Flaschenbirne*), with the synonym, *Calebasse passe Bosc*; the final letter in the proper name being an *e*, not a *c*. We should, therefore, read and say—not *Beurré Bosc*, but *Bosc’s Beurré*. It is ranked as first rate.

The name *Glout Moreceau*, is not applied in this work to the fruit thus distinguished by us; but is described as *Hardenpont’s Late Winter Beurré*, (*Hardenpont’s Späte Winter Butterbirne*), with the synonyms, “*Beurré d’Hardenpont*” and “*Hardenpont d’Hiver*.” The synonym *Kronprinz Ferdinand von Oestreich*, applied by the *London Horticultural Soc. Catalogue* to the *Glout Moreceau*, appears erroneous; as it is described in this work as a distinct fruit, in the following terms:

79. “*Kronprinz Ferdinand von Oestreich*,” (*Crown Prince F, of Austria*), *Diel* xxii, p. 217. A large, handsome, choice, and truly delicious winter pear; having a resemblance, shape, and size to a *Summer Bon Chretien*; often, also, to a longish *Chaumontel*. On dwarfs, the fruit is 3 inches in breadth by $3\frac{1}{4}$ in height. On standards, $2\frac{1}{2}$ broad by $2\frac{3}{4}$ high.

The form is longish, eggshaped. The swell is generally in the middle; often, however, more towards the eye, where it tapers off and forms a flat, upon which the pear can stand. The eye is open, short leaved, placed in a more or less considerable depression; sometimes the depression is very deep, around which are various swellings, which, especially in large specimens, show themselves all over the fruit. The stem, from one-half to an inch long, is thick, and stands in a cavity surrounded with swellings and covered with rust.

The colour of its rough, but not at all greasy skin, is, when taken from the tree, a bright green, becoming, as it ripens, first a yellowish green, and

finally a bright yellow; at which period, however, no redness is observable.

The dots are indeed numerous, but very fine, and not conspicuous. This is accompanied, in many fruits, with cinnamon coloured blotches round the eye and insertion of the stem. The fruit is without perfume, or with a slight one when dead ripe.

The flesh is clear white, very juicy, buttery and melting, with a high, sweet, sugary *Muscattelle* flavor, resembling a mingling of the taste of an *Autumn Bergamot* and *Crassane*.

The core is roomy and longish, but not very large. The cells are long, conchoidal (muschel formig), pretty roomy, containing only a few very long black seeds. It ripens in December, lasting till March. The tree requires good cultivated soil, a protected site, and thrives peculiarly well as a dwarf, grafted on quince. As a standard, it grows fast, and soon bears abundantly; for which reason it does not become a large or spreading tree.

This pear is at present only found in choice gardens, and does not appear generally known, as we have never seen the fruit at public exhibitions. It is a choice winter pear, of the very first rank, which should not be plucked too soon, if it is to attain its perfect excellence, and is to be recommended to every garden proprietor.”

Under the head, *Red Magnum Bonum*, in your work, as well as in the *London Hort. Society’s Catalogue*, three names of plums are arranged as being identical, which, in *Liegel’s work on Plums*, are separated and made distinct varieties. The “*Red Egg Plum*,” the “*Imperiale Rouge*,” and the “*Imperiale Violette*.” That you may take the case into consideration, and determine whether they ought to remain confounded, I will subjoin *Liegel’s* description of the three at full length.

Die Rothe Kaiserpflaume—Imperiale Rouge. Young twigs, straight, almost naked germs, eyes distant, pointing outwards; (that is, not setting close—standing off;) flowers generally single; leaves long, ovate, acuminate, sometimes lance-shaped,—upper surface smooth,—under having coarsely, deeply and doubly serrated petioles, long, upper side pubescent. Fruit very large, invertedly eggshaped, occasionally oval, of a red blue; stem long, pubescent; free stone; pit, lancet, and invertedly eggshaped below, long above, blunt pointed. The tree grows large, and throws out its main branches in acute angles with much spray; but yet not thickly leaved, as the leaf buds stand far apart. In this way, as well as by its dark green, narrow, long, drooping leaves, the tree distinguishes itself. Bears freely every year, but never in great clusters—sometimes in pairs; blossoms early, long before it is in leaf, which open late; rather tender as to cold; capital for forcing.

I have several times raised it from the pit, genuine, as is also stated by *Gumbroole* and *Borkhouse*.

The summer shoots are straight, middling thick,

of a violet brown, overlaid with a broken silver scarf-skin, almost naked, covered with short, thin, almost imperceptible hairs. The leaf buds (pointing out, remote,) short, thick at the base, and a little woolly. The eye bearers (augenträger ophthalmopodia,) broad, high, long, rising gradually, not perpendicularly. The leaves are large, 3 inches 7 lines long, 1 inch 10 broad, and pendant, flat, thick, stiff, coarsely ribbed and nerved, upper surface bare, the lower pubescent, dark green, longish eggshaped, pointed, sometimes lancet shaped, coarsely, deeply, and doubly serrated. The fruit has some resemblance to the shape and colour of the common prune, only considerably larger,—being *very* large, two inches high, one inch 5 lines in breadth, and one inch four and a half lines in thickness. Its shape is variable, often a regular oval, but most frequently narrowing towards the stem. The greatest breadth is often in the middle. Occasionally the back and belly are compressed; and the same is sometimes remarked on the sides. The suture, deepening below, draws the back down flatly, and divides the fruit unequally; one side rising towards the point.

The remains of the pistil, large, yellowish grey, and flat towards the point, for the most part rather more towards the belly. The stem is 8 lines long, hairy, slender and straight, greenish, with rusty spots. The cavity of the stem is narrow and rather deep. The bloom is pretty thick, and light blue. The colour is red blue, now and then pretty dark; but the red colour still is always predominant.

Grey and yellow specks are spread very thickly over the whole fruit. The skin is thick, tough, may be stripped off, and is bitterish sour. The flesh is whitish yellow, firm, prune like, a little coarse, pretty transparent and bright, very juicy, of a sweet, high flavor.

The pit is closely enveloped by the flesh, but parts freely, except a little upon the edges, and is, in relation to the size of the fruit, small, and strongly compressed. It measures one inch three lines in height, seven lines broad, and three and a half lines thick. The shape is lancet, inverted eggshaped below, sharp above, blunt pointed. The cheeks rough and flat.

The back and belly are about similarly curved. The greatest breadth is generally towards the top. The midrib is sharp, and enlarges towards the bottom. The belly furrow is narrow, and for the most distorted in places; its edges are indented. The fruit ripens in the last *decade* (drittel,) of August. The fruit, from its striking magnitude, early ripening, and distinguished agreeable, sweet taste, deserves to be disseminated. Unfortunately, however, it is not a good bearer; it rots in rainy weather; its suture cracks open frequently in the direction of the pistil, and becomes gummy, which gives rise to deformity in shape, and renders it scarcely eatable.

It hangs firmly on the tree. May be known by

its size, early ripening, predominant *red* colour, oval figure, sometimes assuming the inverted egg-shape. The tree is distinguished by its narrow, longish, drooping fruit leaves; the pit by the blunt, long, projecting points at its base.

The Imperiale Violette is often confounded with this plum in nurseries, and by authors; but is inverted eggshaped, smaller, shorter, and more blue in colour, and ripens later.

Die Rothe Eierpflaume—*Red Egg Plum*—*Reine de Chypre*, Pr. dom. de Cypro. The young twigs are zig-zag, (flexuosus, bent from bud to bud,) naked, slightly pubescent at the base; buds crowded, pointing out; flower stems generally in pairs; leaves broad, eggshaped, rather acuminate, quite hairy, coarsely serrate; petioles long, hairy; fruit very large, compressed, inverted eggshaped, flamed with red; stem long, thickly haired. Fruit a free stone; pit inverted eggshaped, thick cheeked above, short pointed below, projecting, blunt pointed. The tree grows to a large size, thickly leaved, bears every year, and often in masses, (clusters;) comes true from the pit.

The summer shoots are pretty strong, *characteristically* dotted with grey, rough, naked, and at the ends set with fine, scarcely perceptible hairs. The buds are crowded, pointing outwards, very large, bellying, blunt pointed, loose (aufgelockert,) almost entirely covered with a whitish wool. The bud-bearers (augenträger ophthalmopodia,) [shoulders,] are broad, almost long, high, marginate, shining, without ribs. The leaves are large, three inches long, two inches broad, dependent (drooping,) flat, thick, soft, pretty strongly ribbed, thickly haired both on the upper and under surfaces; ribs rugose, dark green, broadly eggshaped, coarsely acuminate, for the most part serrated crenately. The petioles are 11 lines long, stout, thickly haired, channeled on the upper side, and a little reddish.

The fruit is in shape and size like a hen's egg: is 1 inch 11 lines in height, 1 inch 7 lines broad, $1\frac{1}{2}$ inch thick. The shape is (einseitig,) one sided, uneven, irregular; (that is, I presume when the fruit is divided downwards, through the suture, the two parts are of unequal dimensions and different shape;) phial shaped, compressed on either side, running off suddenly towards the belly, and forming a blunt edge. The suture is scarcely perceptibly depressed, and draws the back rather flattish, generally dividing the fruit unequally. The pistil mark is large and grey, placed in the middle, near the point which rises toward the belly. The stem is 13 lines long, thinly haired, slender, straight, generally of a deep rust colour. The cavity of the stem is placed entirely upon a raised (elevation) point. The bloom is thin, and of a whitish blue. The colour is bright red, in which many dark red stripes and blotches occur, and which colour the fruit, especially on the sunny side, of a deep dark flame tint. Grey dots are thickly sprinkled over the surface. The skin is

thick, tough, easily stripped off, sour, bitter, and not eatable.

The flesh is bright yellow, very juicy, a little hard, yet quite melting, of a very pleasant, high, sweet and vinous flavor. The pit readily frees itself from the flesh, except a little round the edges; is round, streaked with red by the stringiness of the pulp, (which strings are red.)

It is 1 inch high, 3 lines broad, 5 thick, inverted eggshaped, rising in the back above, short and sharp pointed below; its blunted point projects a good deal.

The cheeks are strong, rough and raised. Three apricot stone-like edges separate, the middle one rather broad and sharp below, where the pit is widest. The belly furrow is narrow, shallow and irregular, the back rising more than the belly.

The fruit ripens towards the end of August. It is worthy of propagation from the size, beauty, early ripening, from its pretty good taste, and from the abundant bearing of the tree. When over ripe, it becomes watery and vapid; is apt to crack and rot in rainy weather. Should be plucked by hand, as it bursts when shaken from the tree. Is distinguishable from all other red plums by its size, short inverted eggshaped, red flamed colour, and long stem.

Violet Imperial—*Imperiale Violette* (Die Violette Kaiserpflaume,) Pr. dom. imperiale violacea. Young twigs, straight, naked, buds rather crowded, pointing outwards; flower stems in pairs; leaves eggshaped, acuminate, hairy, almost doubly serrate; petioles hairy, two glanded; fruit large, inverted short eggshaped, oval, red-blue; stem hairy; pit free, irregularly ovate above, blunt pointed below, projecting a little, truncatedly pointed.

The tree grows pretty large, sends out single, spreading out branches, *not* thickly clothed with leaves; tender as to aspect, soil and climate, consequently does not often bear fully; requires a warm, protected site. Distinguished by its dark green foliage.

The summer shoots are pretty stout and long, of a violet brown, with yellow and grey specks, and streaks set with broken interrupted spots of silvery scarf-skin, naked and straight. The buds are almost crowded, pointing out, large, stout, naked, eggshaped, acuminate. The bud-bearers narrow, low, short, weak, and curtly ribbed. The leaves are middling large, 2 inches 4 lines long, 1 inch 9 lines broad, rather drooping, thin, soft, moderately ribbed, quite hairy, strongly wrinkled (rugose,) dark green, eggshaped, acuminate on the edge, undulate, and deeply, doubly serrate. The petioles are tender, 6 lines long, covered with hairs, channeled in some measure, rather reddish, with two unequal glands.

The fruit is large—sometimes very large, 1 inch 7 lines high, 1 inch 4 lines thick, 1 inch 3½ lines broad. The figure is inverted eggshaped, oval, rounded off above, below dwindling off rather

more, blunt pointed; the greatest thickness is in the middle; back and belly are about equally elevated. The suture is rather deep, and presses the back strongly, and divides it in two unequal halves. The pistil mark is grey, small, is pretty much in the middle, almost flat, but not on the point; then the fruit often cracks open. The stem is 9 lines long, slender, straight, hairy, slightly rusty. The cavity of the stem is a little elevated, askew, narrow, but rather deep. Bloom thick, light blue. The colour is dark violet, strewed over entirely with gold colour dots,—leather-spots not unfrequent. The skin thick, tasteless, and cannot be readily stripped off. The flesh is firm, whitish yellow, slightly transparent, not too juicy, of a sweet, delicious taste. The pit is completely enveloped in the pulp, but readily frees itself when fully ripe; is 10 lines high, 6 broad, 4 thick, unequally oval above, blunt pointed below, compressed, projecting, truncate pointed. The blunt back ribs are elevated, and have their greatest curvature in the middle; the midrib is slightly elevated. The belly furrow is shallow, wide; the cheeks rather rough.

The fruit ripens gradually,—about the first decade in September. The Imperial Violet is a beautiful, large, and good fruit, meriting recommendation. The tree, however, is very sensitive to frost, and consequently is not an abundant bearer. The fruit cracks easily in rain, long before the time of ripening; it consequently rots on the stem, does not therefore adhere firmly to the tree, and is easily shaken off by the wind. May be known by its size, its short, inverted egg-oval shape, red-blue tint, and pretty firm flesh.

The Red Imperiale, which is often mistaken for it by writers and nurserymen, is much longer and larger, and ripens about three or four weeks earlier. The leaves of the two trees differ strikingly. This is short, eggshaped; that, spreading out, long, eggshaped, (oblongo-ovatum.)

The "German Fruit Gardener" describes and figures under this head the *Red Imperial*. Christ, another pomologist, erroneously styles this the Princess plum—Prune de Flandres, which name, in another work, he applies to the Violet Imperial. We have a *red* and a *violet* Imperial, a *violet* and a *dark blue* Imperatrice; both of which last ripen late. Noisette speaks of a small Imperial Violet, and terms the Blue Egg plum the Great Imperial Violet, &c. Yours sincerely, J. W. K. Fishkill Landing, N. Y.

VINERY CORRECTION.—*Dear Sir*: In the article I sent you, describing my vinery, a mistake occurs which should be corrected. I did not intend to have 100 bunches of grapes this year, but *next*. You say I am trying sheet glass, which every one knows has been a long time in use. It is the *rough* glass, rolled, and very strong; the same which the London Hort. Society tried, and reported upon in the Gardeners' Chronicle of April last. Yours, W. Resorr. Cincinnati, O.

PHYSIANTHUS ALBA.—I do not observe this pretty climbing plant noticed in your journal. Like *Cobea*, *Maurandia*, &c., it is a valuable plant in the flower garden or shrubbery, and is well adapted to cover the columns of light piazzas, etc. It grows from 10 to 20 feet in a season, when planted out in the open border in rich soil, and endures our hot summers without injury, bearing its clusters of pure white flowers in great abundance. It requires the same treatment as *Cobea* or *Maurandia*; that is, new plants should be raised from cuttings, wintered in the green-house, and turned out in April. It may also be raised from seeds; but these seldom ripen well here. Yours, *A Tyro*. *Long Island, July 2, 1849.*

PAULOWNIA IMPERIALIS.—*Dear Sir:* There are some who have doubted the merits of this tree. I have cultivated it for five years, and think more highly of it every year. In general effect, it strongly resembles the *Catalpa*, both in foliage and growth; but it has several advantages over the latter tree. It is much more hardy, having borne last winter uninjured, in sites where the *Catalpa* was considerably injured, and where the mercury in Fahrenheit's thermometer fell to 14 degrees below zero. It is of very rapid growth, and its blossoms are of a beautiful pale lilac or French gray, with a delicate scent, not unlike that of violets. The only defect I have yet noted in this tree, is that it protrudes its flower buds the autumn previous, though it flowers not till May or June. Hence, in excessively cold winters, they are apt to get killed. A tree, however, in Hogg's nursery at Yorkville, near New-York, bloomed abundantly this spring, though standing in the open border, and exposed to 5 degrees below zero last winter. *Manhattan, N. Y., July, 1849.*

HINTS IN VINERY CULTURE.—*Sir:*—The following is an extract of a letter from Mr. SKINNER (Northwoods, England,) to his son in America. If you think its merits claim a place in the *Horticulturist* it is at your service. I remain yours truly, *J. H. Skinner*. *Dutchess County, N. Y.*

"Very small vines should carry but few bunches; but if they are large strong vines then they will carry a proportionally large crop. * * * * The method I invented to ascertain, with great exactness, the strength of every vine in the house is this—note down, every year, the number of bunches every vine bears, and how it bears them. If you find that on some of the vines the bunches are not of a good color, and that they exhibit other marks of imperfection, when at the same time, other vines in the same house present fine bunches well matured, you have reason to believe that you have over-cropped your vine, and must leave fewer bunches on it next year. * * * * When set, stop the green shoot, *one joint beyond* the bunch; but when side-shoots grow below the bunch, pinch them off. And when the branch produces another

shoot beyond where you stopped it at the one joint above the bunch, pinch that off to *one eye*. And when it produces another, serve it in the same way; and if the vine produces more shoots upon the whole than you can well spread under the wires, break off or rather out, the weakest of them. From 66 to 70 degrees of heat will do for grapes. Though I have often set the *Muscate* of Alexandria at a much lower temperature, when *no fire heat* had been applied. In the day when the sun shines let them rise as high as 80. I never syringe my vines, but I take care to sprinkle my floors and flues, or pipes with water, so as to produce a moist air in the house. And this I do frequently in the day when the sun shines bright. Heat, moisture and light combine to make the vine flourish. Some persons not understanding the management of the vine, have kept the air of the house so *dry* as not only to prevent the vines from thriving, but by this treatment, they have been swarming with the *red spider*, which have destroyed their leaves and made them so sickly, as to prevent the formation in embryo of the *next year's crop*. Moisture is a very great enemy to the red spider. When a cultivator is an advocate for syringing, care must be taken never to syringe when the vines, peaches, cherries, or whatever the plants may be which are being forced, are in bloom, because the syringing destroys the *farina*, or *pollen*, which impregnates the pistillate part of the flower, and which is essential to the setting of the crop. When the crop is fairly set, then, syringing may be resumed, but the water should be of the same temperature as the air of the house, and it should be thrown rather gently by the syringe, to prevent bruising the young fruit."

ANSWERS TO CORRESPONDENTS.

STOCKS FOR DWARFS.—*Yeoman*, (Hartford.) You will find an answer to your queries about Paradise Stocks in another column of this number. Trees on the Doucin Stock commence bearing the 2d or 3d year after being budded, and if taken care of will live 20 years or more. They may be planted 8 feet apart. We know nothing of the effect of grafting the apple on the Siberian Crab Stock. There is no difficulty in budding the peach on the plum, if done early in *July*. The seeds of the elm ripen in the spring.

HEDGES.—*Daniel Musse*, (Lampeter, Pa.) The Osage Orange and the Buckthorn are the two best hedge plants for the northern states. The seeds may be planted either in autumn or spring. For full directions, see *Hort.*, vol. 1, p. 345.

MANURES.—*West Jersey*, (Bridgeton.) The "refuse stuff" you speak of, consisting of pulverized charcoal and soap-stone, would be excellent manure for any plants requiring magnesia, (Indian corn or the grape, for example;) as the latter substance enters largely into soap-stone.—*B.*

Johnson, (N. Y.) Apply your guano in the compost heap at the rate of 100 lbs. to sufficient bulk of compost to manure the acre, and let it lie all winter. It is much better than to use guano alone, as is commonly used in this country.

FRUIT TREES.—*A Hartford Subscriber.* The pear trees require more food than your soil supplies. Make a compost of 1 bushel guano, 6 bushels of leached ashes, and 3 cart loads of good heavy loam, (your soil being light,) and apply a good coat of this as a dressing this autumn, digging it under the surface. For a compost for peaches and pears, see Hort. of last March, (vol. 3, p. 403.) Apricots, if worked on Plum Stocks, do well in strong soils, and perhaps better as standards, than when trained; but they should be headed down, or kept low and bushy, so that the leaves will shade the trunk; or they will be liable to gum, and die suddenly. We advise you to move your plum trees near to the hog-pen, and enclose them in a yard where the pigs can have the range.

EVERGREENS.—*A. R. C., (New-Haven.)* To give your evergreens a healthier growth, (if the soil is already good,) give them a top-dressing of ashes and plaster, (gypsum,) and apply it at once.

TEA ROSES.—*An Amateur, (Rochester.)* You will hardly succeed in keeping tea roses out in the open ground all winter, even by covering them well, unless you put a glazed frame over them, covering it with straw, and opening it occasionally in mild weather. You may keep them with ease through the winter, by lifting them with balls of earth now, transplanting them thickly into a com-

mon hot-bed frame in a sheltered place, and covering the glass with straw or mats. All the other everblooming roses will stand in the open borders by merely covering them well with branches of evergreens or litter, so as to keep the sun off in winter.

PEACH ORCHARDS.—*A Young Planter, (South-side Staten Island.)* The choicest late peaches for profitable market culture are the following:—*Morris White, Crawford's Late, Heath Cling, Druid Hill, Snow Peach, Old Mixon Freestone, La Grange, and Ward's Late Free.* In planting an orchard of 2000 trees in your neighborhood, we should choose the above in about equal proportions, giving the preference to *Morris White* and *Crawford's Late*, as the most uniformly productive. 16 or 18 feet apart, each way, is the usual distance; but you may plant them 12 feet, if you keep them low and bushy, and shorten-in the tops every year, by which means you will have the finest fruit. Above all, be careful to get trees of healthy constitution, free from all hereditary suspicion of the *yellow*s. The size and quality of your fruit depends almost wholly on the *depth* and goodness of your soil.

WINTER PEARS.—*T. Williams, (Philadelphia.)* Pick the fruit in a dry day, let it lie 48 hours in a cool room; then wrap each pear in soft paper, and put the whole away in small boxes or kegs, in an airy cellar, free from frost. As the season for their maturity approaches, bring the boxes or kegs into a warm room, and they will ripen finely without shrivelling.

MASSACHUSETTS HORTICULTURAL SOCIETY.

BUSINESS MEETINGS.

Aug. 25, 1849.—President SAMUEL WALKER in the chair.

Letters were received and read from the Westchester County Horticultural Society, Pennsylvania, and the New-Haven Horticultural Society, inviting a delegation from this society to be present at their respective annual exhibitions.

Voted, That a minute of the reception of the letters be made upon the records, and an acknowledgment forwarded to the societies by the corresponding secretary.

Voted, That a delegation, consisting of five members, be appointed by the chair, to attend the annual exhibition of the New-Haven Horticultural Society; and Messrs C. M. Hovey, Joseph Breck, Josiah Lovett, 2d., Eben'r Wight and W. T. Austin, were appointed delegates.

Voted, That the societies to whom an invitation was extended last season, be invited to be present at the coming annual exhibition.

A communication was received from LAWRENCE YOUNG, Esq., Louisville, Kentucky, in regard to the use of lime, as a preventive to the ravages of the curculio; and it was voted, that the letter be placed in the hands of the committee of publication, to be printed with the "Transactions of the Society."

Sept. 1, 1849—President SAMUEL WALKER in the chair.

Voted, That the exhibition previous and subsequent to the annual exhibition be dispensed with.

Voted, That the delegation appointed last season, with the addition of three members to be appointed by the chair, be a delegation to attend the meeting of the Congress of Fruit-

Growers, to be holden in the city of New-York, Oct. 2, 1849; and Messrs. C. M. Hovey, Eben'r Wight and Wm. K. Austin, were added to complete the members of the delegation.

Voted, That a delegation, consisting of five members, with power to fill vacancies, be appointed by the chair, to attend the annual exhibitions of the Pennsylvania Horticultural Society, and the Westchester County Horticultural Society; and Messrs. Marshall P. Wilder, B. V. French, Cheever Newhall, Wm. R. Austin and Joseph Breck, were appointed delegates.

Voted, That the President, with four members to be appointed by the chair, be a delegation to attend the annual fair of the American Institute; and the President, C. M. Hovey, W. B. Kingsbury, Eben'r Wight and Wm. R. Austin, were appointed delegates.

Sept. 8, 1849.—President SAMUEL WALKER in the chair.

A letter was received from NICHOLAS LONGWORTH, Esq., of Cincinnati, Ohio, accompanied with a box of wine, of American manufacture; and it was

Voted, That the thanks of the society be presented to Mr. Longworth, and the wine placed in the hands of the committee on fruits, to be exhibited at the annual exhibition, and afterwards tested.

Voted, That the Vice-Presidents of the society be a committee to receive and entertain the delegates who may be present at the annual exhibition.

EDWARD C. R. WALKER,
Recording Secretary.

ALBANY AND RENSSELAER HORTICULTURAL SOCIETY.

ANNUAL EXHIBITION

The third annual exhibition of the society came off on the 17th and 20th of September, in the hall of the State Agricultural Society, and far exceeded any former exhibition, not only in the quantity of the fruits, flowers and vegetables offered for competition, but in their quality, number of varieties newly introduced, and beauty of appearance. The reports of the several committees which are annexed, indicate sufficiently the extent and richness of the display, without the necessity of further particularising; but I cannot refrain from congratulating the members of the society on the effect of their exertions, and also from hoping that the success of the past season, under unfavorable circumstances, may prove a stimulus to them for future effort.

JOEL RATHBONE, President.

REPORT ON FRUIT.

The committee on fruit reports that there were exhibited by A. Bryant and Son, of Buffalo, twenty-six varieties of pears, for which the committee beg leave to return to Messrs. Bryant the thanks of the society.

By J. H. Bailey, Esq., Plattsburgh: 12 varieties of Apples and three of plums.

By J. C. Holmes, Detroit: 20 varieties of apples.

By Stephen E. Warren, Mount Ida, Troy: twenty-two varieties of pears; fifteen varieties of plums; twelve varieties of peaches, and two varieties of nectarines.

By Henry Vail, of Ida farm, Troy: twenty-eight varieties of apples; thirty-seven varieties of pears; twenty-four varieties of peaches; among them five seedlings, one of which, of medium size, light yellowish white color and red cheek, having delicate flesh, non-adherent to the stone, and well supplied with rich saccharine juice, was decided to be very good, and worthy of further trial; another, of large size and yellow color, one of medium size and greenish yellow color and of medium size and yellowish color with red cheek, as good and worthy of further trial. Four varieties of foreign grapes; four varieties of native grapes; also, Green gage plums.

By Dr. Herman Wendell: twenty-nine varieties of pears; eighteen varieties of apples; Isabella grapes growing in pots; three varieties of seedling peaches, nether of which possessed much merit; twenty-three varieties of plums; four varieties of muskmelons; and two varieties of quinces.

By E. P. Prentice, Mount Hope: 10 varieties of plums; 11 varieties of peaches; 28 varieties apples; also, pears, grapes and melons.

By Isaac Denniston: 30 varieties of plums, among them nine seedlings, some of which are of very fine appearance, and may, upon further trial, prove worthy of dissemination, particularly one named by Mr. Denniston, the Madison—to designate it—which is of beautiful appearance, good size, and late in ripening—but few specimens being as yet sufficiently mature to test its quality—the committee therefore prefer leaving it for future consideration.

By V. P. Douw, Wolvenhook: 14 varieties of plums, 4 of grapes and 4 of water melons.

By Wilson, Thorburn & Teller: 9 varieties of pears; 3 of plums, and Victoria currants and Everbearing raspberries.

By E. C. McIntosh: 21 varieties of plums; pears, and foreign and native grapes.

The other principal contributors of Fruit, were Jas. Stevenson, 2 varieties of plums; S. Morgan, apples, pears and plums; J. W. Ford, pears and plums; J. D. Thorpe, plums and peaches; D. B. Kirtland, peaches; F. W. Aiken, peaches; Dr. March, plums; B. R. Wood, plums; Dr. Ward, peaches; W. P. Buel, apples and pears; E. Corning, Jr., apples, plums, quinces and grapes; Dr. J. Wilson, apples and Water and Citron melons in varieties; E. E. Platt, 13 varieties of plums, grapes and pears; Joel Rathbone, 7 varieties of grapes, and pears and apples; J. Carey, grapes; J. S. Gould, 7 varieties of pears, 4 of plums, and peaches and quinces.

PREMIUMS.

The premiums were awarded as follows:

APPLES—Best and most extensive collection to Henry Vail,..... \$3

Second best to Ezra P. Prentice, of Mount Hope,..... 2
Best six varieties to Henry Vail,..... 2
Best one variety, six specimens, to E. P. Prentice,.... 1

PEARS—Best and most extensive collection, to Henry Vail,..... 3

Second best, to Stephen E. Warren, of Troy,..... 2
Second most extensive to Dr. Herman Wendell. (This collection of Dr. W. was more extensive than Mr. Warren's, but had in it a large proportion of new varieties with great foreign reputation, but with which the committee were unfamiliar.)..... 2

Best six varieties, to Henry Vail, of Troy,..... 2
Best one variety, to John S. Gould, for White Doyenne, very beautiful, and equal to this celebrated variety in its palmiest days,..... 1

PLUMS—Best and most extensive collection to E. C. McIntosh,..... 3

Second, to Dr. Herman Wendell,..... 2
Best six varieties, to Stephen E. Warren, Troy,..... 3
Best one variety, to Henry Vail, of Troy,..... 1

As Mr. Denniston's plums were not formally entered early enough for competition, and as they are worthy of great praise, the committee have determined to award Mr. D. three dollars for them, it being one of the largest prizes.

PEACHES—For the best and most extensive collection, to Henry Vail,..... \$3

The second, to Stephen E. Warren, Troy,..... 2
The best six varieties, to Henry Vail,..... 2
For the best variety, to B. B. Kirtland, of Greenbush,.... 1

NECTARINES—The best exhibition to Stephen E. Warren, of Troy,..... 3

GRAPES, Foreign—For the best exhibition, to Joel Rathbone, of Kenwood,..... 3

For the best two varieties, to Joel Rathbone,..... 2
For the best one variety, to Henry Vail, of Ida Farm, Troy,..... 1

GRAPES, Native—Best exhibition, to Henry Vail,..... 3

Best two varieties, to Henry Vail,..... 2

Best one variety, to Henry Vail,..... 1

WATERMELONS—For the best two varieties, to V. P. Douw, of Wolvenhook,..... 2

For the best one variety, Black Spanish, to E. P. Prentice,..... 1

MUSKMELONS—For the best two varieties, to Ezra P. Prentice, for Green Citron and Beechwood,..... 2

For the best one variety, to Dr. John Wilson, of Bethlehem, for Skillman's Nutmeg,..... 1

FLOWERS AND FLORAL DESIGNS.

The committee on flowers and floral designs beg leave to report, that the exhibition has far exceeded their anticipations in variety of material offered for competition, richness of display, and appropriateness of the several designs and ornaments. It is exceedingly gratifying to them to perceive the increased interest manifested by residents of both counties in the welfare of the society, and they beg leave to express the hope that the farmers of the vicinity may be induced to give more of their attention than heretofore to the cultivation of the finer fruits, and flowers, as well as to the introduction of the newly introduced esculents, and also come forward, and be active members of the society.

There was exhibited by Wm Newcomb, of Pittstown, Rensselaer county, a very rich display of double German Asters, 60 varieties of Dahlias, a finely arranged bouquet for the hand, a beautifully arranged flat mantel bouquet, composed of fine Dahlias, Verbenas, Gillias, Asters, Pelargonium leaves, Reseda odorata, Petunias, &c. &c. Also, another flat mantel bouquet, arranged very beautifully with about the same varieties of flower.

By James Wilson: Four very beautiful hand bouquets—two round and two flat, composed of choice and delicate flowers, as Fuchsias, Hoyas, Arbutions, Verbenas, Stephanos-floribunda, exquisitely arranged. One flat mantel bouquet, very beautiful, four finely arranged round parlour bouquets, composed of choice Dahlias, Carnations, Roses, Delphiniums, Phloxes, &c. &c. 12 varieties of Verbenas;

10 varieties of Roses; 12 seedling Verbenas, and a large display of cut Roses, Phloxes, Dahlias, Asters—very fine—and other flowers.

Also, by Mr. Wilson: 18 green house plants in pots.

By L. Mennet: Green house plants in pots.

By E. P. Prentice: 6 varieties of choice Dahlias, and a collection of other flowers.

By J. Dingwall: 20 varieties of Verbenas. 15 varieties of China roses. One centre table bouquet composed of choice flowers, most tastefully arranged: two beautiful hand bouquets composed of choice and rare flowers, arranged with much taste; and also, a collection of cut Dahlias, Asters, Amaranthus, &c. &c.

By Mrs. Brinckerhoff, a growing Tuberose in full bloom, a variety of Dahlias and other flowers.

By Dr. Herman Wendell: 27 varieties of Phloxes, 27 varieties of seedling Verbenas, 40 varieties of new seedling Phloxes, some of which were very beautiful. A design representing a temple of Flora, of circular form, supported by four massive pillars, surmounted by a dome, and elevated on a raised platform; the groundwork of the whole of green Moss, studded with choice and delicate flowers, the ceiling of the temple of small flowers, arranged in the form of a star on a moss ground. A floral design in shield-like form, covered with Dahlias, Roses, Asters, Verbenas, and other flowers, and a basket bouquet composed of choice flowers exquisitely arranged. The above designs and basket were made by Mathias Tillman, Dr. W.'s gardener.

By Joel Rathbone: 16 varieties of fine Verbenas; 5 varieties of rare Dahlias. 25 different varieties of cut flowers, as Roses, Fuchsias, Asters, &c. &c. A floral design in Cathedralum form six feet high, on a broad base of green moss, studded with flowers; the sockets of the branches filled with exquisitely arranged petite bouquets of choice flowers, the whole evincing much skill and a fine taste in Col. R.'s gardener. A design in antique form four feet high, composed of green moss studded with choice flowers, and having its angles and apex surmounted with beautiful bouquets tastefully arranged, showing good taste in the gardener.

By D. Thomas Vail, of Ida farm Troy: Several varieties of choice dahlias and other flowers, a beautifully arranged pyramidal design elevated on a platform with mossy ground, studded with gay flowers, supported on four square columns, and composed of choice Roses, Dahlias, Verbenas, Heliotropiums, surmounted by an exquisite bouquet of rare green house flowers. A rustic cottage of moss, studded with White and Red Amaranthus, and altogether arranged with much skill, both of the above being very creditable to John Quin, Mr. Vail's gardener.

PREMIUMS.

The premiums were awarded as follows:

PLANTS—For the best six growing in pots, to Louis Mennet,	\$2
DAHLIAS—For the best display, to Mr. Newcomb, of Pittstown,	3
Best twelve dissimilar blooms, to Jas. Wilson, for Constantia, Orlando, Lutea Alba, Golden Rule, Cheltenham Queen, McKenzie's Perfection, Lady Ann Murray, Minerva, Caleb Cope, Tippecanoe, La Belle Blonde, and Marquis of Aylesbury,	2
For the best six, to Wm. Newcomb, for Cleopatra, Hero of Stonehenge, Fulwood Scarlet, Marshal Soult, Evreque de Bayeux, and Great Mogul,	
For the best flower—specimen bloom—to D. T. Vail, for Beauty of Sussex,	1
ROSES—For the best ten varieties, including hardy Perpetuals and Isle de Bourbons, to James Wilson, for Souvenir de la Malmaison, Dr. Roques, Mrs. Elliott, Madam Fabert, Eugene Joviene, Crimson Globe, Eugene Hardy, Emilie Courtier, Giant de Bateur, and Phoenix,	2

For the best six varieties, to James Wilson, for Souvenir de la Malmaison, Marquis Bocella, Crimson Globe, Giant de Bateur, Eugene Hardy, Duchess of Sutherland, and Emily Courtier, 1 || PHLOXES—For the best ten varieties, to Dr. Herman Wendell, for Anias Chauviere, Eclipse, Reine de Jour, Superbissima Dodonia, Rosea Superba, Blanc de Neully, Muzepa, Auguste and Princess Mariana, For the best six varieties, to Dr. Herman Wendell, for Goethe, Fleur de Marie, Lawrenceia, Eclipse, Anias Chauviere, and Princess Mariana, | 2 |

For the best seedling, to James Wilson, for a beautiful flower of fine habit and form, its petals being of large size and of variegated white and pink, 1 |

GERMAN ASTERS—For the best display, to Wm. Newcomb, 1 |

For the second best, to James Wilson, 1 |

VERBENAS—For the best twelve dissimilar blooms, to James Wilson, for Rosy Pink, Beauty Supreme, Bolls Seedling, Davidson's Seedling, Jackson's Red, Jackson's Pink, do Lilac, do Purple, Eclipse, Rosea, Superba, Brills' Fulgens, Queen and Fulgens, 2 |

For the best six, to James Dingwall, for Beauty Supreme, Eclipse, Roseum, Brille's New Purple, New Fulgens and Susette, 1 |

For the best seedling, to James, Dingwall, for a beautiful light pink flower with well formed truss and large petals, 1 |

ROUND VASE BOUQUET—For Centre Table, for the best, to James Dingwall, 2 |

FLAT PARLOR BOUQUET—, or Mantle Vase, for the best, to Wm. Newcomb, 2 |

HAND BOUQUET—Best and most beautiful round one, to Jas. Wilson, 1 |

Best and most beautiful flat one, to Jas. Wilson, 1 |

BASKET BOUQUET—Best and most beautiful, with handle, to Dr. Herman Wendell, 2 |

FLORAL DESIGNS—Best, most beautiful, and most appropriate, to Joel Rathbone, 3 |

Second best, to Dr. Herman Wendell, 2 |

Third best, to D. Thomas Vail, 1 |

VEGETABLES.

The Premiums on Vegetables, were awarded as follows:

To Dr. Herman Wendell, for the best new seedling potatoes,	\$2
Dr. J. Wilson, of Bethlehem, half peck of winter potatoes,	1
E. P. Prentice, of Mount Hope, for the best Winter squashes,	1
John S. Gould, of Albany, blood beets,	1
E. P. Prentice, Mt Hope, for the best carrots,	1
do do for the best parsnips,	1
Joel Rathbone, of Kenwood, for the best egg plants,	\$2
Dr. Herman Wendell, Albany, for the best winter cabbage,	1
John S. Gould, Albany, for the best cauliflowers,	2
V. P. Douw, Wolvenhook, for the best celery,	1
Wm. Newcomb, Pittstown, for the best Martynias,	1
Jno. S. Gould, for the best tomatoes,	1
E. P. Prentice, for the most numerous varieties of tomatoes,	1
Joel Rathbone, Kenwood, for the best specimens of Okra,	1

DISCRETIONARY PREMIUMS.

To Dr. Herman Wendell, for the finest exhibition of vegetables,	\$2
Dr. John Wilson, of Bethlehem, for his assortment of beans,	1
Erastus Corning, Jr., for a very large and fine mammoth squash,	1

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GOOD CULTIVATION depends on nothing so much as the supply of an *abundance of food*. And yet there are hundreds and thousands of cultivators who do not recognise this fact in their practice. They feed their horses and cows regularly, because it is undeniable that they have mouths and stomachs; and experience has demonstrated, that not to keep these sufficiently supplied amounts at last to starvation. But, because a plant has a thousand little concealed mouths, instead of one wide gaping one,—because it finds enough even in poor soils to keep it from actually starving to death, ignorant cultivators appear to consider that they deserve well of their trees and plants, if they barely keep their roots covered with earth. They make plantations in thin soil, or upon lands exhausted of all inorganic food by numberless croppings, and then wonder why they succeed so poorly in obtaining heavy products.

Too much, therefore, can never be written about manures. After all that has been said about them, they are yet but little understood; and there is not one person in ten thousand, among all those owning gardens in this country, who does not annually throw away, or neglect to make use of, some of the most valuable manures for

trees and plants,—manures constantly within his reach, and yet entirely neglected.

We must therefore throw out a few seasonable hints, on the preparation and use of manures, which we hope may aid such of our readers as are anxious to feed their trees and plants in such a generous manner as to deserve a grateful return.

Among the first and best of wasted manures, constantly before our eyes in the autumn, are the *falling leaves* of all deciduous trees. When we remember that these leaves contain not only *all the substances* necessary to the growth of the plants from which they fall; but those substances in the proportions actually needed for new growth, it is surprising that we can ever allow a barrowful to be lost. The whole riddle of the wonderful growth of giant forests, on land not naturally rich, and to which nature scarce allows a particle of what is commonly called manure, lies hidden in the deep beds of fallen leaves which accumulate over the roots, and, by their gradual decay, furnish a plentiful supply of the most suitable food for the trees above them. Gather and take away from the trees in a wood this annual coat of leaves, and in a few seasons (unless manure is artificially given,) the wood will begin to de-

cline and go to decay. Hence, we must beseech all our good orchardists and fruit-growers not to forget that dead leaves are worth looking after. They should be held fast in some way, either by burying them about the roots of the trees from which they fall, or by gathering them into the compost heap, to be applied when duly decomposed in the spring.

And this leads us to say that an excellent, and perhaps the best, mode of using leaves for the orchard, fruit garden, or any plantations of trees or shrubs, is the following: Take fresh lime and slake it with *brine*, (or water saturated with salt,) till it falls to a powder. This powder is not common lime, but muriate of lime. Gather the leaves and lay them up in heaps, sprinkling over every layer with this new compound of lime, at the rate of about four bushels to a cord of leaves. This will be ready for use in about a month if the weather is mild, or it may lie all winter, to be used in the spring; but in either case, the heap should be turned over once or twice. The lime decomposes the leaves thoroughly; and the manure thus formed is one of the most perfect composts known for *trees* of all kinds. We need not add that its value to any given kind of tree, as, for example, the pear, the apple, or the oak, is increased by using the leaves of that tree only; though a mass of mixed leaves gives a compost of great value for trees and shrubs generally. The practice in the best vineyards, of burying the leaves of each vine at its root, every autumn, is not only one of the most successful modes of manuring that plant, but one founded in the latest discoveries in science.

The most economical mode of making manure, in most parts of the country, is that of using muck or peat from swamps. Though worth little or nothing in its crude

state, it contains large quantities of the best food for trees and plants. No cultivator, who has it at command, should complain of the difficulty of getting manure, since he can so easily turn it into a compost, equal in bulk to farm-yard manure.

The cheapest mode of doing this, is, undoubtedly, to place it in the stalls underneath the cattle for a few days, and then lay it up with the barn-yard manure, in the proportion of one part muck to six or eight parts manure. The whole will then ferment, and become equal in value to the ordinary product of the barn-yard. But a much more practicable mode for horticulturists—who are not all farmers, with cattle yards—is that of reducing it by means of ashes, or lime slaked with brine.

As we have already pointed out how to use ashes, and as we think, after what we have observed the past season, the latter mode gives a compost still more valuable for many trees than ashes and muck, we recommend it to the trial of all those forming composts for their orchards and gardens. The better mode is to throw out the peat from the swamps now, or in winter, expose it to the action of the frost, and, early in the spring, to mix it with the brine-slaked lime, at the rate of four bushels to the cord. It should be allowed to lie about six weeks. The good effects of this compost, when applied as a manure to the kitchen garden, or mixed with the soil in planting trees, are equally striking and permanent.

We cannot let the opportunity pass by without saying a word or two about that much lauded and much abused substance—guano. Nothing is more certain than that, in Peru and England, this is the best of all manures; or that in the United States, as it has hitherto been used, it is one of the

worst. Now, as a substance cannot thus wholly change its nature in these different countries without some good reason, we are naturally led to inquire, what is the secret of its success?

If we recall to mind the facts, that, in Peru, guano is no sooner applied than the land is irrigated, and that in England no sooner is it spread over the land than a shower commences; and that this shower, or something very near akin to it, keeps itself up all summer long, in the latter country; and if we then recollect, that in the middle states, five summers out of six, any substance applied near the surface of the ground is as dry as a snuff box, for the most part of the time, from June to September, we shall not be greatly at a loss to know why so many persons, in this country, believe guano to be nothing more or less than a "humbug."

If any very good proof of this were wanted, we need go no further than to the exotic florists in our cities, who cultivate their plants in pots, for their experience. They are nearly the only class of cultivators among us who are sturdy champions for the use of guano. The reason is plain. They use it only in the liquid state, and apply it so as to give the plants under their care every now and then a good wholesome drink,—a thorough soaking of a sort of soup more relishing to them, than any in M. SOYER's new cookery book, to an epicure in a London club house.

Now it is quite impossible for an American cultivator to do anything worth mentioning, in the way of watering his trees or crops with liquid guano; partly because labor is too dear, but mainly because the air is so dry and hot, that in a few hours the earth is drier than before; and so all good effects are at an end. What then is

to be done, to enable us to use guano with success?

We answer, in a few words. Use it in the autumn.

We know this is quite contrary to the advice of previous writers, and that it will be considered by many a great waste of riches. But our advice is founded on experience,—an ounce of which, in such a matter as this, is worth a ton of theory drawn from observation in other climates.

After having tried guano in various ordinary modes, at the usual season, and with so little satisfaction as to find ourselves among the skeptics as to its merits for this country, we at last made trial of it in the autumn. We spread it over the soil of the kitchen garden, before digging it up at the approach of winter, and, to our astonishment, found our soil so treated more productive, even in very dry seasons, than we had ever known it before. We have also recommended it as an autumnal manure for enfeebled fruit trees, (turning it under the surface at once with the spade,) and find them wonderfully improved in luxuriance and vigor. In short, our observations for the past two years have firmly convinced us, that in all parts of the country, where the climate is hot and dry from June to October, guano should be used in the autumn. Applied at that season, and turned under the surface by the plough or spade, so as not to waste its virtues in the air, or by surface rains, its active qualities are gradually absorbed by the soil, and, so far from being lost, are only rendered more completely soluble, and ready for feeding the plants when the spring opens.

Guano, applied as a top-dressing, or near the surface, in the spring, is undoubtedly a manure of little permanence,—generally lasting only one season; for it always

loses much of its virtue in the atmosphere. But when buried beneath the surface, it becomes incorporated with the soil, and its good effects last several seasons.

The common rate of manuring farm lands is 300 lbs. of guano to the acre. But when old gardens are to be manured, or worn out orchards or fruit-yards renovated, we find 600 lbs. a better dressing. We would recommend its use at any time between the present moment and the frosts of winter. It should be spread evenly over the surface, and immediately turned at least three inches below it.

At the present price of guano, it is certainly the cheapest of all manures to be bought in the market; and as it is undeniably richer in all the elements necessary for most crops than any other single substance, it deserves to have a more thorough trial at the hands of the American public. We commend it anew to all those who have once failed, and beg them to

try it once more, using it in the autumn.

The large proportion of phosphate of lime which exists in Peruvian guano, makes it very valuable for fruit-growers; and a good dressing of guano—so that it visibly covers the surface under each tree—dug under during the month of November, will certainly give a most thrifty and healthy start to the next season's growth, as well as prepare the tree for the highest state of productiveness. The concentrated form of guano, saving, as it does, so much labor in carriage and spreading over the soil, is no small recommendation in its favor to those whose finances admonish them to practice economy of means and time.

We might enlarge upon manures, so as to occupy volumes. But it will suffice for the present, if we have drawn the attention of our readers to the fact, that food *must* be supplied, and that the present is the time to set about it.

TRANSPLANTING ON THE UNBROKEN PRAIRIE SOD, &c.

BY J. R. HAMMOND, SHANDY HALL, MO.

DEAR SIR—Indebted as I am for all my success in farming to agricultural and horticultural publications, and being willing to reciprocate the obligations I am under to others, as much as lies in my power, I have concluded to send you a statement of my experience in arboriculture in the western wilds, which you are at liberty to dispose of as you may think best.

My business is that of farming; but having purchased a farm in the open prairie less than two years ago, with little more than a dozen trees on 240 acres, (leaving out a little clump of crab apple bushes,) and as there are now growing on the same

place, exclusive of an orchard of 200 fruit trees, about 5000 locust and forest trees, all thrifty and luxuriant, every one of which has passed through my own hands, and having been successful beyond my utmost expectations,—not losing exceeding one per cent. in all that I have transplanted, it may not be amiss to note down, for the benefit of beginners, my *modus operandi*.

About 90 acres of the land had been broken up and put in cultivation; but immediately around the house was a smooth and unbroken prairie. This, having been neither grazed, mowed nor burned for several years, was covered with a very thick

sod. I fenced off about an acre for a garden; and in that acre, the only things like a tree or shrub were five or six stunted cherry sprouts, about 18 inches high. The man who had lived there before I bought, informed me that he had set out a great many trees around the house, but somehow or other he could not get them to live. He said he did not think that trees set in the prairie sod, without breaking and letting it rot, could be made to live. All the neighbors with whom I conversed on the subject, were of the same opinion, and advised me to break my ground in the spring, and then wait until the next spring, when the sod would be well rotted before beginning to plant. This advice, however, did not exactly coincide with my impatience to commence operations.

Leaving out of view the luxury of a good shade in the dog days, the idea of living a whole year with nothing to relieve the monotony of a prairie landscape, but long strings of worm fence, varied by an occasional gopher hill or haystack, I could not stand it. So, when spring rolled round, instead of getting a prairie plough and going to work, "breaking," I took my wagon to the woods, and dug up some thirty forest trees of different kinds, such as Mulberry, Black and White Walnut, Elm, Oak, Coffee Bean, and Sycamore; the most of them from 15 to 30 feet high. Having the holes already dug for their reception, and from 4 to 6 feet across, I aimed to leave roots enough on the trees to fill the holes. In addition to these, I also procured from a neighbor about the same number of Locust trees, from 20 to 30 feet in height. Before planting them, I sawed all the largest off to within about 10 feet of the ground, and putting the sod into the bottom of the hole, set the tree on it and filled up with the same soil that came out of the hole.

Now for the result. Out of the 60 trees thus planted, all are now living but two, and growing finely; and those two started and grew through the summer, but, by some means, were broken down last winter. Some of the Locusts threw out limbs 8 feet long the first season. The tops growing so rapidly, I was fearful the high winds, to which they are exposed in the prairie, would break them off this spring; therefore, I cut the limbs all off to within a few inches of the bodies of the trees. Many of them have since thrown out limbs from 10 to 12 feet long and are still growing, and will continue to do so for a month or more.

Last spring I set out some 20 more from the forest, among which, in addition to some of the kinds before planted, were Ash, Box Alder and Crab Apple. They are also doing well, with the exception of one of the Crab Apples, which looks somewhat debilitated; but I think it will get through. Notwithstanding the large size of some of them, and the long tops they threw out the first season, together with their exposure to the winds on the prairie, I have not had to stake but one in the whole number which I transplanted both seasons. All that was done to them, after they were set, was to work around them with a hoe every two or three weeks, until the latter part of August, keeping the ground loose and clean as far around as the hole was dug. One good hoeing is worth more than a hogshead of water, the way it is generally applied, in transplanting trees; and I have no doubt that by its injudicious application, in this operation, it has caused the death of ten trees where it has saved the life of one.

I dwell on this subject for the purpose of impressing it on the minds of those who, like myself, have settled on the open prai-

rie, and who live on, from year to year, without a tree to interrupt the scorching rays of the summer's sun, or relieve the tedious monotony incident to open prairie situations, or break the piercing blasts of winter, because, forsooth, some one has told them that trees will not grow in the sod; and they can never get the time to break up their enclosures, or something turns up to prevent them. I repeat, I dwell on it for the purpose of impressing it on the minds of such as these,—that trees will grow there if rightly managed.

"Oh, but," says one, "it is so much trouble, digging such a great big hole,—4 to 6 feet across, and 18 inches to 2 feet deep, in tough prairie sod." Well, my good fellow, if it's your calculation to get through this world without trouble, and with as little mental or physical exertion as possible, I advise you not to bother your brains about embellishing your home with trees. These directions are not addressed to you. Pass on to some more congenial subject. But to those who are disposed to put themselves to the trouble of transplanting trees into such situations, I would put this question, and they can make the calculation for themselves. How much more trouble is it to dig up one tree, with roots sufficient to fill a hole 5 feet across and 18 inches deep, set it, and loosen the soil about it three or four times during the season, than to transplant a dozen into holes the size and shape of a wash-bowl, drive up stakes by each one and tie them, to prevent the wind upsetting them, water a dozen trees the first two months, half a dozen the next two, and so on, the labor diminishing as they gradually die off, until, at the end of eighteen months, a little stunted, scrubby, sickly looking thing, which, by courtesy, is called a shade tree, remains to disfigure, instead of embellish-

ing your grounds? This is no fancy sketch. I have seen this very process gone through with often.

I shall now proceed to notice a subject of far more importance, in a pecuniary point of view, to farmers living remote from timber, than that of growing trees for shade and embellishment; and that is, the growing of timber for fences and fuel. It has often been a matter of surprise to me, while travelling through the extensive prairies of the west, to find so few of the farmers turning their attention to the raising of timber.

Many of them haul all their timber three, four and five, and some as much as ten miles, year after year, through rain, snow and mud; whereas, by about ten days' labor each spring, for three years in succession, they might, in the course of ten years, have an abundance of timber for fencing and fuel,—two of the most important items in a prairie farmer's account. I now have growing about 3000 Locusts, which I set out last spring, besides some 2000, still in the nursery, which I design transplanting into the grove next spring. Although I kept no account of expenses, I have no idea the 3000 I transplanted last spring have cost me, from the gathering of the seed to this present moment, (allowing a fair compensation for the labor bestowed upon them,) 50 cents a hundred, or 5 dollars a thousand. From this time henceforth, they will be no expense.

My mode of transplanting them from the nursery was as follows: I had the ground broken up very deeply, and laid off four feet apart each way. I then cut the tops off the scions close to the ground, dug them up with a spade, and cut the tap root off pretty close. The only advantage that I recognise in cutting off the tap root is, that they are easier set. I then com-

menced in the first row, and dropped one in every other cross, and in the second the same way, alternating the crosses so as to make the tree in one row opposite the vacancy in the other, and so on through the patch. A brisk hand will set out from 800 to 1000 in a day, with another to dig and drop them. All that is necessary, is to draw on dirt enough to cover the roots, tramp it down, and then draw on a little more, so that the surface shall be loose. I consider it decidedly preferable, in transplanting young Locusts, to cut the tops off at the ground. They are easier set, more likely to live, and, at the end of two years, are larger than if the entire tree had been planted. I don't think there are a dozen missing out of the 3000, and they will ave-

rage five feet in height, and are still growing rapidly. After setting the Locusts I planted the vacancies with pumpkins, potatoes, &c., and cultivated all together with the plough and hoe. I am getting tired of drawing rails six miles; and am in hopes, that by the time my fences rot down that I now have, I shall be able to renew them nearer home. I want to plant a few bushels of Black Walnuts next fall; and shall try the Osage Orange next spring, if I can procure the seed. Respectfully yours,

J. R. HAMMOND.

Shandy Hall, Cooper co., Mo., Aug. 6, 1849.

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[We are glad to hear of such enterprising planters on the Missouri prairies. Ed.]

THE CULTURE OF THE DAHLIA.

BY WILLIAM CHORLTON, STATEN ISLAND.

SIR—Having seen in a late number a request for information on florists' flowers, and not having seen it answered, perhaps my humble suggestions, which are founded on experience and sound practices, may be of use to your subscribers. If so, I shall be glad to transmit, from time to time, notices of other favorites of the florist.

In penning the following remarks upon the propagation and cultivation of that most showy and symmetrical of flowers—the Dahlia—it is not my purpose to write an elaborate essay, but to state simply and plainly the proper method of bringing that flower to the greatest perfection; not merely for the purposes of exhibition, but as an ornament in the flower garden, which, if carefully followed, is sure to lead to ultimate success and satisfaction.

The Dahlia is named in honor of ANDREW DAHL, a Swedish botanist, and a pupil of LINNÆUS. It belongs to the class Syngenesia, and order Superflua, of the sexual, and to the order Compositæ, and sub-order Heliantheæ, of the natural system of botany, and is a native of Mexico,—growing wild in shady grounds. It was sent to Madrid in 1789, and thence to England in the same year; but the plants being lost were reintroduced by LADY HOLLAND, in 1804. Some botanical authors enumerate several species, as *D. superflua*, *D. frustranea*, *D. segregata*, &c., which have now become so intermixed by cross breeding that, in a cultivated form, all traces of a specific distinction are destroyed. I very much doubt if they were ever anything more than accidental varie-

ties. In its natural state it is single, or only semi-double; but the combined efforts of florists, through a series of generations, have been eminently successful, and have so altered the form and whole appearance that we now gaze with wonder upon its symmetry and brilliance.

As there are certain criteria by which the florist is guided in deciding the relative good properties and excellence of flowers, it may be well to mention that in the Dahlia, the plant should be of free and healthy growth, stiff and bushy habit,—growing from two to five feet high. The flower should be supported upon a strong footstalk, and rise above the foliage, forming, in its general outline, a half globe, with the eye not sunken. The petals should be solid in texture, and incurved, but not so much as to show the back, with the ends nicely rounded, not pointed, and regularly placed, so as to form a perfect imbrication. The colour bright and clear; if parti-coloured, the markings should be well defined and regular. The Dahlia may be propagated by seed, offsets from the root, or by cuttings.

Propagation from Seed.—It is little use to resort to this method of increase, except when new varieties are required; and in order to get new, and at the same time improved sorts, it is necessary that some care should be taken in crossing and saving seed. This is indispensably necessary to insure success. Fifty plants from seed, carefully hybridized, will bring more good sorts than a thousand neglected ones. In saving seed, select two kinds, possessing first rate properties, and between which, in colour, &c., it is wished to have a cross; then, with a camel hair pencil, take the farina or yellow dust of one, and place it upon the stigma, or little yellow thread in the centre, at the core of the petal of the

other; and choose the best formed petals. Remember that the progeny is generally disposed to retain the constitutional features of the one made into the mother, (if I may be allowed the expression,) while the markings and colouring of the father generally prevail. This I have found in practice to be almost an universal rule; and as no flourish of physiological theory is here needed, I only state what may give satisfaction and pleasure to those who wish to embark upon the florist's boundless ocean, which is not yet half explored. About the middle of February the seeds may be sowed in pans in a hot-bed, or hot-house. When the first rough leaves are formed, they may be pricked out singly into small pots, and kept in the same temperature till they have grown about five or six inches, when they should be removed into a cool airy apartment, which will cause them to become stocky and strong. About the middle of May, when all danger of spring frosts are over, they may be planted out, and treated in the same way as the general stock. They will flower the same season, when all the worthless ones can be rejected, and the rest retained. It is well to keep any that show signs of goodness, though perhaps not up to the standard; as sometimes, the following season, these may come out better than expected.

Propagation by Offsets from the Root.—This is performed by dividing the root; care being taken, that with every division there is one or more eyes, (which are placed around the base of the stem, or upper end of the tubers,) left to the tuber taken off. These may be planted out in the open ground about the latter part of April, or beginning of May. Recollect that the more the Dahlia can be kept back in the spring, in this climate, the dwarfer it will be in autumn, and the better it will bloom.

Propagation from Cuttings.—This method is the most generally resorted to when increase of stock is required. About the middle of February place the roots intended for increase in a warm house, or hot-bed frame; if the tubers are covered with soil, the better, though this is not absolutely necessary, providing they are placed upon a damp surface of soil or sand, into which the tubers will emit roots. They will soon develop young shoots, which should be taken off when about two inches long, taking care, if much stock is required, to leave the base eye to the tuber, which will soon again throw up other shoots; and by following on the same course with subsequent croppings, the cuttings may be multiplied almost ad infinitum. Be careful to leave an eye at the heel of each cutting; for, although they will grow and bloom the same season, without this precaution, they will not again form eyes for another year. Place the cuttings in thumb-pots, and keep them in a close warm temperature until rooted, which will be in about a fortnight, when they may be removed into larger pots. Keep them in the same place for a few days, then take them into a cool airy house or frame, keep them near the light, and give plenty of air, and be careful that they do not suffer from want of water; this will cause them to grow stiff and short jointed, which is a great desideratum; for if they once get weak they never, during the season, perfectly recover it; neither do they form as handsome plants when full grown. Cuttings may also be taken off the plants, after planting out, any time during the summer, though the early and the latter part are the best; as success is not so certain during the intense heat. These cuttings, if taken off not later than the middle of September, will form nice little tubers,

and may be kept in the pots in which they are rooted. These are often very useful in case of accident with the old roots.

To grow the Dahlia to perfection, it must be planted in a rich soil and an open aspect. It is well to forecast the season before, where it is intended to grow them. Let the soil be trenched two spit deep in the fall, and mix thoroughly plenty of good stable manure, well rotted; leave it rough all winter. In spring, it should be well forked over to the depth it was dug, which will incorporate the manure with the soil, and add to its fertility by admitting the air freely through it. Unless the dung is completely rotten, and well mixed with the soil, it will cause the plants to run to over-luxuriant growth, and the flowers will be small, and apt to come semi-double. This is a point in which many err; and some of the finest sorts get a bad name on this account. Where a large quantity are grown, and ornamental flower beds can be dispensed with, it is well to grow a crop of celery or other vegetable on the ground the season before planting, taking care to manure the preparatory crop very freely. This will put the land in first rate order. Immediately before planting, let the soil be again forked over to the depth of six inches. About the third week in May, the plants may be finally planted out, not nearer than five feet apart, carefully retaining the ball of earth when taken out of the pots. When they have fairly started growing, pinch out the tops, which will cause them to throw out side shoots; when these have grown sufficiently, thin them out to three or four, and bring them down nearly horizontal; but be careful not to break them off at the base, tie each branch to a stake and, as growth progresses, thin out all weak and superfluous shoots, cutting them close to the stem. If fine blooms are desired, al-

low freedom of air and light. After planting, give a good soaking of water to each plant, and cover the surface over two or three inches with rotted manure, which will prevent the sun's scorching rays drying up the moisture, and keep the soil in a more equable temperature. Attend carefully to watering in dry weather; little and often is of no use; one good soaking is worth twenty sprinklings. Nothing more is now required but occasionally tying the branches to the stakes as they progress in growth, but do not bundle them together; all that is required, is to prevent them breaking down. The flowers are wonderfully improved if covered from the light, which may be done in a variety of ways, that will occur to any ingenious mind. The best I have ever tried is with a square board, having a hole near the side to slide it down on to a stake, and a slit cut through about midway from the opposite side. The stalk of the flower, just before expanding, is drawn through the slit, which brings it to the middle of the board, and the flower on the upper side of it. It is now tied to the stake, which keeps it firm; and a flower pot is inverted and placed upon the board, which covers the flower. This is necessary, if the highest point of perfection is required in any individual flower; but as it is not my wish to encourage the same scarecrow appearance in this country, which attends an enthusiastic Dahlia-grower's garden in England, I merely mention the thing *en passant*.

This noble flower may be grown to great perfection without it, by simply following the above hints. It may be thought by some that this is an extravagant plan, incurring much labor. To all such I would say, only give my method a fair trial one season, and you will no more go back to your straight stem, tight tied, nine feet,

grenadier looking plan; for the Dahlia can be grown to as great perfection, and be kept quite as dwarf in this country as it is in the old one, if the right means are adopted.

The following is a list of 50 of the best kinds in cultivation:

White or Blush

Marchioness of Cornwallis. (Whale's,)
Queen of Sheba. (Watkinson's.)
Empress of Whites.
Marchioness of Lorn. (Catter's.)
Antagonist. (Bragg's.)
Optimus. (Widnall's.)

Pink and Rose.

Felix. (Drummond's.)
Rose d'Amour. (Batteur's.)
Mrs. Shelly,
Lady Stopford. (Trentfield's.)

Crimson and Purple.

Captain Warner. (Girling's.)
Marquis of Aylesbury. (Sperry's.)
Minn. (Drummond's.)
Sir Edmund Antrobus. (Keyne's.)
Louis Phillipe. (Turner's.)
Standard of Perfection. (Keyne's.)
Caractacus.
Pickwick. (Cormack's.)

Scarlet and Red.

Shylock. (Collison's.)
Scarlet Gem. (Turner's.)
Beeswing. (Drummond's.)
Scarlet Unique,
Box. (Drummond's.)

Orange and Yellow.

Mirabeau,
Cloth of Gold. (Edward's.)
Princess de Joinville,
Toison d'Or. (Batteur's.)
Hon. Mrs. Herbert. (Brown's.)

Tipped and Shaded.

Andromeda. (Collison's.)
Conspicua. (Girling's.)
Delicata,
Gem. (Oakley's.)
Lady of the Lake. (Keyne's.)
Gloria Mundi. (Headly's.)
Lady Featherstone,
Magician. (Turner's.)
Princess Radziwill. (Gaine's.)

Maroon and Dark.

Admiral Stopford. (Trentfield's.)
Queen of Gipsies,
Berryer. (Turner's.)
Duke of Cambridge. (Wyness's.)
Essex Triumph.

Striped.

La Carnation. (Girling's.)
Roi des Pointes,
Fancy Boy. (Gaine's.)
Bicolor,
La Lione,
Mr. George Clayton. (Bragg's.)
Madame Chauviere,
— Meilley.

I have the honor to be yours, most obediently,
WM. CHORLTON,*
Gardener to J. C. Green, Esq., Staten Island.

* An excellent article; and we shall be glad to hear from Mr. C. again. Ed.

INVISIBLE IRON FENCES.

BY HENRY W. SARGENT, ESQ., WODENETHE.

[An iron fence, at once light, substantial, inconspicuous and cheap, is a great desideratum in this country; and we have, as yet, seen nothing of the kind so entirely satisfactory, in all these respects, as one at Wodenethe, the seat of HENRY W. SARGENT, Esq., of which he has obligingly prepared us the following description.

We especially commend this fence for ornamental grounds. In this country, where labor is dear, by the aid of a fence of this kind, a large surface of grass may be kept in admirable order by sheep, so as to give the effect of a lawn kept short by constant mowing, at little or no cost. Ed.]

MY DEAR SIR—Annexed is a rough sketch of my wire or invisible fence, respecting the cost and construction of which you requested me to give you some details.

I take common bar iron, $1\frac{1}{4}$ inch wide and $\frac{1}{4}$ inch thick, and cutting it into lengths of 5 feet, I round off the heads, sharpen to a gradual point the feet, and then pierce it with five holes to receive the wire, at the distance of 8, 9, 10, 11 and 12 inches, which are the distances of the sheep and lamb hurdles in England.

These form the uprights, and are driven 9 inches into cedar, locust or chestnut posts, 18 inches long, and 5 or 6 broad, which are placed immediately below the surface of the ground, leaving only the wire uprights to show above, and are heavily rammed down,—making them rather firmer (there being less resistance to wind and other ordinary pressure,) than posts set for common board or picket fence. These uprights are set 5 feet apart. 6 or 7 would,

I presume, answer equally well; and after being plumbed, the wire is drawn through and fastened securely, in hundred feet lengths, to a stout post of cedar or other wood, unless one has the good luck to find a tree, which makes a much stronger and less visible finish. I find it difficult (using simply a crow-bar as a lever,) to draw the wire tight and straight, at distances much greater than 100 feet. The wire I employ is No. 4, about the thickness, or a trifle larger than a common quill, and costs in New-York, at wholesale prices, $5\frac{1}{2}$ per lb.; though I since learn it can be purchased at $4\frac{1}{2}$ cents.

The cost of making the fence depends somewhat upon the soil. In many soils, a common post-hole auger can be used. My soil being stony, the holes were dug, and cost 4 cents apiece. My cedar posts (18 inches long,) 7 cents each; making the cost of 100 feet of fence about \$13.40, or about $13\frac{1}{2}$ cents per foot, as follows:

20 uprights, weighing $5\frac{1}{2}$ lbs. each, 110 lbs., at 4 cents,.....	\$4 40
500 feet wire, weighing 100 lbs., at $5\frac{1}{2}$ cents,	5 50
20 cedar posts, digging holes, staples, &c.,	2 50
Labor putting up, 2 men half a day,	1 00

Per 100 feet,..... \$13 40

Of course, the expense is increased or diminished by increasing or diminishing the number of posts. In my woods, I run the wires from trees, and require only 5 to 10 uprights, instead of 20, as in the above estimate, and in some cases none at all; while upon my lawn, I have employed 25

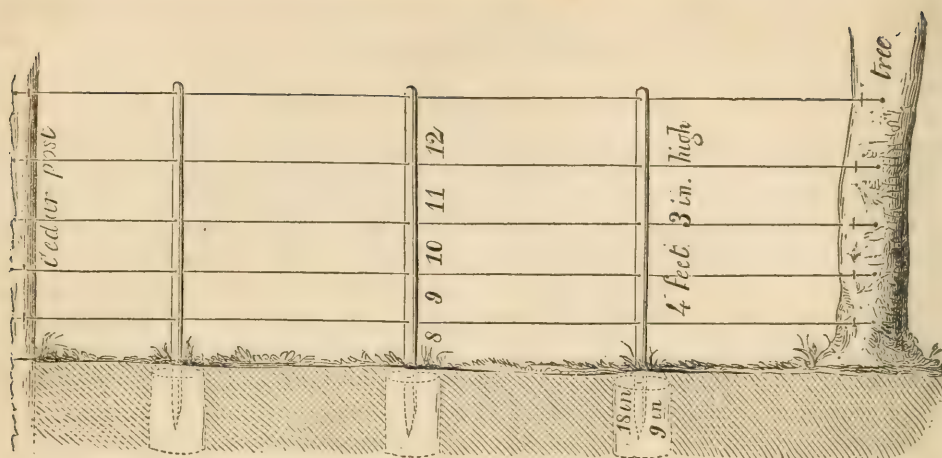


Fig. 86.—Invisible Iron Fence.

to the 100 feet, in order to make the wires tight and straight. In my woods, I have ran over the fence with coal tar; upon my lawn, it is painted grass green. Where stone is plenty and wood dear, as in England, the former material may be used at about the same cost; supposing your stone cost you nothing, by using an old wall, for which you substitute this wire fence. The blocks of stone should be about a foot square, and have one flat side. The holes could be drilled for 4 cents each; and it would require 1 lb. of lead, at 4 cents, to set the uprights, which, in this case, would need to be inserted only 3 or 4 inches instead of 9, as in wood. About 2 cents would thus be saved on each upright. Without paint, which is a mere trifle, we may estimate this fence at costing from 6 or 7 cents a foot, up to 13 cents. In woods, where no uprights are required, there is simply the cost of the wire and staples and labor, in securing from tree to tree. The cost then increases as you get out of the woods, and the number of trees to be used as supports diminish, until in a clear field. Where all your uprights and supports are wire or wood, it becomes the most expen-

sive. There are, however, few ornamental places where the trees cannot be well worked in. I should add, that after the fence is put up, each upright is secured to the wire by a little wedge of wood, or a small nail, which renders it much firmer than merely straining it from the two ends.

Too much has been already said and written upon the subject of wire fences, to require any remarks from me upon their beauty and economy. Even upon farms, they are cheaper and more durable, and vastly more economical, than anything else, since no ground is lost on either side; and the plough and the scythe can be used immediately up to and under them. Upon ornamental places, especially of any size, I consider them almost indispensable to high keeping.

The great fault of our places in America, is the want of a proper termination to the ornamental grounds; or, rather, some intelligible division between the ornamental and practical. I say intelligible, because we all keep under the roller and scythe, every two or three weeks, a certain quantity of lawn, say from 100 feet to an acre

or more, and at the end of the last swath starts up a hay-field, which is mown over perhaps twice in the season; but in most cases, there seems no good reason why the lawn ends and the hay-field begins just where they do, instead of 10 or 100 feet one way or the other; in fact, there is no good reason, for the length and breadth of the lawn often depends upon the horticultural zeal or pecuniary position for the moment. If the first mowing of the season is made under the receipt of an increased or unexpected dividend, the lawn gets a swath or two more, and a cock or two of hay is subtracted from the harvest; while the next year, under a smaller income, thrift conquers taste, and the lawn, instead of being shorn of its grass, is shorn of its fair proportions.

The wire fence, therefore, forms an agreeable termination or setting to our ornamental grounds; or, if needs be, a division between the dressed and undressed portions of the estate. By its adoption, we might materially diminish the amount of lawn now kept under the scythe,—producing similar effects by substituting cattle—especially sheep—and increasing very much the charm of the landscape by the introduction of animated nature.

I doubt if the keenest eye can detect my fence at 30 or 40 yards distance. Consequently, our finest places even do not require a lawn larger than twice this breadth in diameter, provided the grass on the other side is kept equally short by sheep.

Your parks or grazing fields can be as well planted by surrounding the trees, or clumps, or shrubs, by the invisible fence, which are quite lost against the foliage; and the walks can be quite as much extended by wire gates.

It is quite astonishing in England how very small the proportion of mown lawn is

to that which, by the use of the invisible fence, is kept equally short, and almost in as high order, by grazing. At Windsor Castle, I should doubt if the mown border, or strip of grass round the park side of the castle, exceeded 50 to 100 feet up to the wire fence, beyond which they were planting, in June last, large masses of Rhododendrons, Laurels, Portugal Laurels, &c., in the park, which they protected from the thousands of sheep and deer that surrounded them by invisible wire fences.

At Longleat, the magnificent seat of the MARQUIS OF BATH, there is a strip of some 300 feet of *mown* lawn, planted with rare shrubs, between the river and one side only of the house, and separated from 600 acres of grazed park by the invisible wire fence. At Wilton House (the EARL OF PEMBROKE's,) Appelder Court (LORD YARBOROUGH's,) Goodwood (the DUKE OF RICHMOND's,) Blenheim, Chatsworth, Stowe, and many more that I remember, the amount of *mown* lawn consists really of little more than the grass borders of walks, or the strips that surround or divide plantations in the gardens and shrubberies. Three sides of the house are thrown open, and kept short by deer and sheep.

By the judicious introduction of wire fences, I have thoroughly tested the strength of this fence against cows and sheep; and I doubt very much whether an ox could break it,—the wire being *annealed*. Besides, here, as in England, cattle seem to avoid it, as if suspicious of some trap.

In connection with this fence, I have now made, by a common blacksmith, 6 and 10 feet long, hurdles, costing, the first \$2, and the last \$2.50 each. In England, the same weight costs 4s. 6d. sterling, (about one dollar,) and 30 per cent. duty, and 20 per cent. freight, and charges \$1.50 for

six feet hurdles, which are still cheaper. The horizontal rods to these are made of three-eighths inch iron, and quite firm; they have two feet, and are pinned to their neighbors by screws. These are very use-

ful in temporary divisions to your fields, and in temporary protection to shrubberies and plantations. I am, my dear sir, faithfully yours,

HENRY W. SARGENT.

Wodenethe, Fishkill Landing, Oct. 11, 1849.

DESCRIPTION OF THE MADISON PLUM.

BY DR. H. WENDELL, ALBANY.

A. J. DOWNING—*Dear Sir*: I wish to call the attention of pomologists, through the Horticulturist, to a new accidental seedling plum, which has originated in the garden of ISAAC DENISTON, Esq., of this city, and which we have determined to call the *Madison Plum*. It was first publicly exhibited at the annual autumn show of the Albany and Rensselaer Horticultural Society, on the 20th of September; but the fruit was not sufficiently mature at that time, to enable the committee to judge of its character. Allusion to it, however, will be found in their report. I annex an outline and description of the fruit. Yours very truly,

HERMAN WENDELL, M. D.

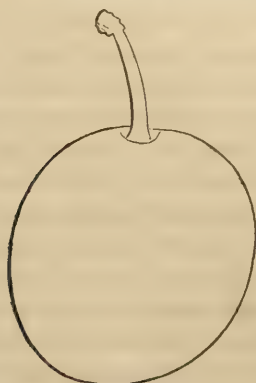


Fig. 87.—*Madison Plum*.

Size—medium; being usually an inch and four-tenths in depth, by an inch and three-tenths in breadth.

Form—roundish oval.

Exterior colour—light golden orange, slightly tintured with a greenish cast, and faintly marked with pale yellow; the exposed side beautifully blotched and spotted with deep, rich, lake carmine, and the whole surface faintly suffused with a delicate bloom. Such specimens as are shaded from the sun's rays have very few, or none of these blotches or spots.

Colour of flesh—deep golden yellow.

Texture—somewhat firm, though not in the least tough; but, on the contrary, rather melting, and well supplied with rich, delicious juice.

Flavor—richly saccharine, and very agreeable.

Stone—irregularly oval, rather pointed, small, and non-adherent to the flesh.

Stem—about three-fourths of an inch in length, not very stout, curved, and inserted in a regular, but not deep, depression, usually a little on one side of the base.

Suture—quite shallow, frequently nothing more than a line, but uniformly visible, and extending from apex to base.

Colour of wood.—The young summer shoots are green, the old wood greenish brown, and not in the least downy.

Growth.—The tree is upright and rather spreading, as well as quite thrifty in its growth; the stems and branches are somewhat slender; the leaves are of a light

green colour, slightly downy, nearly oval acuminate, as well as obtuse serrate, and over three inches long, exclusive of the footstalks, which are short, and a line or two over half an inch in length.

Season—from the first to the fifteenth of October.

Remarks.—Notwithstanding the Madison is fully equal in every particular to a large number, and far superior to many varieties of the plum which are now placed among those of first character, still, its principal recommendations must be the late period of the season at which it comes to maturity, its prolific, and also its hardy character. The tree is now presumed to be about seven years old, and has borne the past season over three bushels of fruit, all of which, with the exception of about half a bushel—which are still on it—have been taken off for preserves, unripe. Full two-thirds of those which now remain are,

as yet, unripe, and from appearances may continue so some days yet. This is the second season of its bearing, it having borne in 1847 about a peck. Last year, owing to the severe vicissitudes of the previous winter, we had no plums in this vicinity; consequently, there was no fruit on it. It is perfectly hardy; not a particle of the young wood having been destroyed during its life, from vicissitudes of temperature. It is probably a hybrid, from the Bleeker Gage; immediately adjoining one of which variety it is growing; and the Blue Gage, several of which surround it on every side.

.....

[From specimens of this variety, obligingly sent us by Dr. WENDELL, we are inclined to think it will prove a valuable acquisition. Its appearance is handsome, and its flavor is superior to that of most of the very late varieties. Ed.]

RANDOM NOTES ON HORTICULTURE.

BY SYLVANUS, CINCINNATI.

DEAR SIR—A correspondent in one of your late numbers, in giving his experience on the subject of mulching, relates that he covered the surface of the ground beneath his trees with straw; and was so much surprised at the after luxuriance of all so treated, that he was inclined to think there was some influence exerted by the straw as a manure. This was not the case. The explanation is simple; but I will first give a little of my own experience the past season. I have frequently observed, during our long drouths in the west, that my trees remained perfectly inert or dormant; though shooting vigorously in the spring, all increase at those times was suspended.

The cause did not, at first, strike me. Last fall, however, I planted some of our native nuts, which came up in due time in the spring, and received constant care and attention; but their growth was slow. In gathering the nuts in the autumn, however, a small pile had been left in a hole near my house; and in pruning some trees, the cuttings had been thrown over them and left there. Some time in July I perceived some green shoots forcing their way through the bushes, and, on examination, I found that some of the nuts had made a growth of three feet in that situation, while my tended plants had attained a height of only about four inches. The cause of this at

once occurred to me; and my trees, large and small, were instantly mulched, first being well forked over and watered, and in two or three days new buds began to make their appearance. In less than three weeks, trees whose leaves had all fallen off, and which I had considered as lost, had made shoots of nearly a foot in length. By mulching, the evaporation of the moisture around the roots was suspended; and as a tree cannot assimilate its juices without a degree of moisture, or extract from the earth its constituents, the ground was kept in a condition by mulching to enable it to feed, if I may so speak, without cessation. Watering, alone, would not answer the purpose; for, independent of the *caking* of the surface soil, the temperature could not be kept equable, as constant evaporation would be going on, and the alternate heat and cold of night and day be injurious to the tree. I will add, that I mulched directly after a heavy rain, and found it expedient, as we had many weeks of dry, hot weather, to water the trees once or twice very plentifully, but without removing the covering. I have since discovered that several of your correspondents have had success equal to mine in mulching their trees.

Many persons complain that fruits do not succeed so well in the west as they did many years ago. This is in a measure true; but I think the evil is not irremediable. I will at least try and throw some light on the subject,—the result of my own experience and observation. The cherry, in particular, many persons despair of ever being able to raise. Although these trees grow well for a year or two, and some even bear fruit for a few seasons, they soon begin to decay, and finally die. Now, in the first place, the heat and long drouths we have in the west, are too much for any of the fine varieties of fruit, and particularly

for the cherry. But it is usually planted with a full exposure to the sun, for the benefit, as they say, of the fruit. Now, even in our driest weather, we have heavy dews, so that in the morning the trees look as though they had been exposed to a heavy shower. The sun, rising, darts his rays full upon their broad wet leaves. The dew is heated at once, and steams off, carrying with it, naturally, the juices imparted by the dew and from the atmosphere, as well as that transmitted to them from the roots for elaboration or digestion; and the leaves are of course prevented from performing their allotted functions. In the mean time, the effect of the dew is not felt at the roots. They are imbedded in a hard dry cake of earth, from which they in vain seek to extract nourishment. The consequence is, that the trees receive a shock that eventually must kill or render them unproductive.

Until this year, I had not been able to raise a single cherry tree; all I planted dying after one, or at most two, seasons from transplanting. This year I planted some in the shade, or, rather, where the sun could not reach the leaves or trunk until after mid-day. I also kept them well mulched, (after the time I discovered its good effect, as above stated;) and they are at this time the most flourishing trees in my orchard.

I pursued the same course with my pear trees. Not one of them has died of the blight, though heretofore I have regularly lost half I planted out.

I am now satisfied of the cause of the *blight* of this tree, at least on my own grounds. It is caused neither by an insect nor by frozen sap. Keep the tree protected, and in a constant state of action, both in its roots and leaves, and it will not blight. But let the circulation of the sap

be prevented or impeded, it soon becomes gorged in the sap vessels, the heat of the sun ferments it, and disease and death are the result. Why is it that the seedlings, found in the forest, are so healthy and so productive?—(the original Seckel, for instance.) It is because they have had a little wholesome neglect; or, rather, have been left to the care of nature. Nature never prunes, but always protects, and always mulches, when it is necessary.

I have given you above my experience for one season only; but so far, I have reason to congratulate myself on my success, and am pleased to find that many of your correspondents, who have pursued the same course of treatment, have met with like results. I firmly believe that by following up this treatment, I shall not only preserve my pear trees from blight, but that I shall also be able to enjoy the cherry in perfection.

I submit now, to you and your correspondents, the following statements:

1st. That the blight in the pear tree, is caused by the fermenting of the sap in the vessels, after the circulation has been impeded or suppressed by drouth.

2d. That the bursting of the bark of the cherry tree, and its consequent decay in the bark, is produced by the same cause.

3d. That to the same cause may be attributed the mildew of the grape; in this case, the blight taking place in the leaves and fruit.

I will close this by stating, that I never have known a pear tree to blight when it was planted in a warm, moist soil, and was protected during drouth from the intense heat of the sun. I never knew a cherry tree to burst its bark, or fail to produce, in a like situation. What is the experience of yourself, and Professor Turner, on this point? I could enlarge upon this subject, and bring a strong array of facts to support what I have written; but I prefer waiting for another season's experiment and observation. In common with others of your correspondents, who have treated this subject in your columns, my desire is to awaken attention to a subject that, to us in the west, at least, is as important as anything in the whole range of horticulture.

SYLVANUS.

Cincinnati, Oct. 6, 1849.

THE CAMELLIA JAPONICA.

BY GEORGE GLENNY.*

THIS handsome evergreen and richly flowering plant is one of the noblest ornaments of the green-house, and its robust and half hardy constitution renders it one of the most desirable of floral subjects. It is a splendid shrub or tree,—for it is as easily cultivated one way as the other,—and is a generally esteemed favorite among the permanent ornaments in the conservatory. The varieties are extremely numerous, the species few; and we are indebted to English gardeners for most of the sorts in cul-

tivation, very few having been imported from China, and these, with trifling exceptions, appear to be only seedling varieties like our own. Nothing can be less alike in the same genus, perhaps, than the diminutive *Sasanqua*, and the monster *reticulata*, while the double white, and its companions red and striped, and others, form a sort of middle class in size, and surpass both in beauty. None of the thousand varieties reared in England seem

* From the London Hort. Magazine.

to follow either *reticulata* or *sasanqua*, so that it is possible they are distinct. Among the species and varieties earliest introduced may be mentioned *Sasanqua* and *Semidouble Red* in 1811; *Double Red*, 1818; *oleifera*, 1819; *Kissi*, 1823; *euryoides* and *reticulata*, 1824. Many have been received from the continent, and among them a number of rejected seedlings, bought in England, propagated and named abroad, and sent back with high sounding names and descriptions, to be bought here, and by good judges thrown away as worthless. Florists who raise seedlings, save for their own novelties some that they consider best, and dispose of the others among persons who use them for no other purpose than sending out as novelties; therefore in such cases the public suffer as badly as if the original raiser had sent them out, and in many cases he buys back, under some tempting description and name, some of the very plants he thought not good enough to name, and sometimes at a larger price than he obtained for the whole batch. It is not our purpose to inquire into the many hundreds of sorts that are now to be found in the various catalogues, nor to go into the merits of many which are so like each other, and so imperfect, as to be scarcely worth culture; but we shall give a few names of varieties that may be grown with credit, and describe our method of cultivation, which differs little perhaps from that of other people who have succeeded.

FIRST TREATMENT OF YOUNG PLANTS.

These generally come to us in a very small state. The imported plants frequently being the completion of their first growth from a bud, and not more than two or three leaves of the worked part, and often upon a stock of small size, in pots filled and matted with roots almost to solidity. These are the most difficult to manage of any, and if they were simply repotted in vessels a size larger, would be as likely to pine and die as to live. Many English plants purchased in from some nurseries will be found matted in the same way, though larger, and they are in as great danger, if merely shifted, as the smaller ones, but from there being more to cut at they would be headed in a little, to give

vigor to new growth, while the smaller ones have not a leaf to spare. The first thing, therefore, to do with a new young plant, is to turn out the ball and examine the state of the roots; if they do not fill the pot, the conclusion is that the stock is young as well as the plant, but it may be that the stock has been matted in a smaller one, and that the shift it has had has not been properly conducted; but if you see healthy roots making their way round the outside of the ball, there is no danger to be apprehended; they may be shifted, if the growth has been completed, into a pot a size larger, without disturbing the ball. If the roots are matted, take the ball out of its confinement, and soak it an hour to wet it quite through. If any part of the roots appear rotted, carefully remove them, and where they are in such a solid mat as to prevent free growth, remove enough to give the rest room to grow, and shake or wash all the mould out; better is it to cut the roots almost to the stump, than to leave on any that will not or cannot grow. Now take loam that has been formed of rotted turves; if they were cut thin, and the vegetation rotted in them, they will be found rich in vegetable mould, and would grow plants almost without any mixture; but equal quantities of peat earth and rotted cow dung, to the extent of one portion to three of the loam, will render it lighter and more porous. If the loam is of the top spit, and the turves rotted in, or the turves were originally cut very thick, the proportion of vegetable mould will be much less, and there must be vegetable mould or more peat and cow dung to compensate. If the loam be pretty nearly clean, but of good friable quality—and it ought to be the latter to answer at all—one-half loam and one-fourth vegetable mould, and an eighth each of cow dung and peat earth, will do; upon the mixing of these all ought to be rubbed through a very coarse sieve, such as would let a hazel nut through, and when mixed, if it should appear too adhesive, which is not very likely, a little silver sand may be added until it is of right texture. Now take a pot of the proper size, fill one-fourth with potsherds or crocks, then some compost, highest in the middle, enough to bring the collar of the plant

(which is where the root begins) near the top of the pot; spread the roots out evenly and fill up, pressing the soil about the fibres and bringing the compost nearly to the level of the pot; well water, and plunge the pot into a moderate bottom heat, and cover with a bell or hand glass. Although it may be directly after they have completed their first growth, this will start them again, and they will make another season of wood, even in time to flower, if it were desirable; but generally speaking, the object of an amateur and that of a florist are widely different. The nurseryman or florist wants to multiply his stock as soon as possible, and therefore makes all the wood he can. The amateur desires to get a handsome plant as soon as possible, and that does not depend on the quantity so much as the form of the wood. Supposing then we have two of these miserable little plants repotted as we have directed, the one we leave to grow as fast as it will; the other we will suppose to have not more than two or three eyes. As soon as the buds begin to swell after the repotting, unless it is bidding fair to grow handsome, take out the top bud, or shorten the shoot to two or three eyes, but if the shoot already made indicates a disposition to grow handsome and throw lateral branches, leave all on, and as they grow, merely notice that no unhandsome growth be made, by stopping any joint that grows the wrong way or out of shape. The proper form for the plant is a well regulated bush, or a handsome standard; we are now directing for the bush. The plants are to be watered rather liberally while growing, and when they are advancing pretty fast let the ball be turned out, to see if the roots have reached the side of the pot, and, before they begin to mat or cross each other, carefully shift them to a larger pot with the same compost, and return them to their place; they ought not to be checked in their growth, therefore the greatest care must be taken not to disturb the ball of earth or damage the roots, and the collars of the plants must not be sunk into the compost the least shade lower than they were before. Continue the watering while the growth goes on, but when there ceases to be any more leaves coming, and the foliage there is grown to its full size, they

may first be lifted out of the plunging medium and placed on their own bottom; next, they may be removed close to the glass, and be shaded from the sun; next, to the green-house, still shaded; afterwards to a cold frame or pit; all of which time they are to have little or no water. This has so far saved a whole season of growth, and perhaps saved the plant altogether, for, as we have before observed, they do occasionally come so miserably weak, that before the growing season they would sometimes perish. The plants so pushed into second growth require care to ripen their wood, and ought not to be placed in the open air until this is effected. Cold winds, rain and damp, would be much against them, therefore there is no contrivance better adapted for them, until the wood is ripened, than a common cold frame or pit, which may be closed partly or altogether as wet or wind may render it necessary. When the wood is thoroughly ripened, it may be thrown more open to the weather, and up to September may be on a shady border. The plants will occasionally, even with such second growth, be found set for bloom at the end of each shoot. If you are still anxious for growth instead of bloom, pick off the buds at once, for the plant stirs but little all the time the buds are swelling and the flowers blooming. In short, two complete growths may be had by taking off the buds, if there be any, and placing the plants in the green-house. But it may be that the pots are full of roots, and this must be looked to now and then, by turning out the ball and examining them, for the best rule for shifting plants is to do it when the fibres begin to meet next the pot. In the new growth, which will begin much sooner from having no bloom, the same watchfulness as to handsome form must be observed, except where the growth alone is wanted for stock, because in that case it matters not where it comes; the object is to get as many buds or joints as possible. It is not to be forgotten, too, that the growth would be still accelerated by increasing the temperature, for which purpose the propagator will even submit the plant to the coolest part of the stove, or place it in a propagating house, which is always kept at a much higher temperature

than a green-house, either by means of a hot-water tank, or a bark bed, but the specimen grower will look more to the strength and beauty of the growth than its quantity. The joints are shorter, the leaves closer, and the habit therefore more compact when the plant is not hastened. These plants will have made their growth much sooner than those which are allowed to bloom; and while the propagator will carefully remove the bloom buds again, the amateur will probably allow his to perfect its flowers for the next blooming time.

PROPAGATION BY INARCHING.

Grafting by approach or inarching is a favorite mode of propagating the Camellia; for this purpose, healthy stocks of the single, or vigorously growing kinds are raised by cuttings, of which we shall speak hereafter, and are for this purpose procured two years old. A shoot of the plant which is to be propagated is bent towards the stock, the wood is cut quite square on the face, and nearly half way through. The stock is cut in a similar way, so that they fit together well; with a sharp knife a notch or slit is made, which forms a kind of tongue downwards in one, and upwards in the other, and these are tucked in a little way, so as to make the join more steady and complete than when the two are merely bound together without the tongue, although they would unite even so. These are then placed so as to make the barks of both join on one side at least, which is all that can be done if one is larger than the other, but if both stock and shoot are the same size the bark meets on both sides; the stock must be fixed so that the join may not be disturbed, and the plant, and that be kept growing. The time of the year for this operation is when the plants begin to push their growth, and the stocks are growing, and if the stocks are not growing so fast as the plant, it should be put in moderate heat and be forced, but when they are inarched they should both be put in heat, something more than the ordinary greenhouse, but not so warm as a stove. All the shoots that are to be inarched should be done at once, and the pots with the stocks in them so fixed, by props or otherwise, as that they cannot be shaken or

disturbed. After a few weeks, say six at the least, or two months is safer, the ties may be undone, and the plants examined, to see if the union have taken place, which, if the join has been neat and the stocks in good growing order, is pretty certain; the shoot that is on the main plant may then be cut just below the join, the piece will be then fairly in the stock; when these are all cut off they may be put near the light, well watered, and the top of the stock that is above the join be taken off, and thus the whole nourishment of the stock thrown into the graft; when the growth is perfected, they may be removed into a cool pit where they can be shaded, and they will require but little water. The greatest exactness must be observed as to the state of the plants when inarched; the buds of the plant ought to begin swelling, and the stock begin to grow. If the stock be at all bushy at the top, all but one shoot must be removed, and the graft ought to be performed below, on the thickest part of the stock, that is to say, as low as the work can be well done. With regard to the shoot of the plant, be guided by circumstances; if there be two eyes above the join it is enough, but as inarching, which is troublesome compared with other grafting, is resorted to for the sake of making good strong plants at starting, they are used much larger than would suffice; many who have favorite plants with a shoot that can be spared will procure a good stock to inarch it on, and be guided by the length they wish to get rid of as to how much they will join on the stock.

PROPAGATION BY GRAFTING.

This is the best way of propagating for amateurs, because it neither keeps the plants out of their places, nor makes a litter in the house; they have only to take care that the joins are made very neatly, fit very close, and are bound firmly, but not too tight. Of the many ways of grafting none need fail; from a small piece of wood with only a single bud on it, to a good long scion, all may be made to unite; but much depends on circumstances, as to the mode employed. The stocks must be in a growing state, and the buds of the scion have begun to swell. The stocks are in general headed down,

that all the strength may be directed to the scion. Suppose, then, we have only one bud on a small piece of wood, with the leaf attached; it may be cut wedge-shaped, and the stock, which should have a bud at the highest part, should be cut to fit the wedge. The reason for a bud being at the highest point of the stock is, that a current of sap should be maintained to the top, to promote the union. Another way of grafting with a single bud is, to cut the stock with a long, sloping cut, half way through, and the bud must be cut to match, and a slit ought to be cut upwards in one, and downwards in the other, so as to form a sort of steadying hold. A third mode of grafting with a single bud and its wood, is, by reversing the wedge; that is, by cutting the bud like a saddle, and making the stock the wedge: but it is not nearly so good, because you thereby lose the advantage of the leading bud in the stock. Another way of bud-grafting is, to cut the bud and the stock to fit each other, in some such way as carpenters mitre, so that the piece with the bud fits into the place mitred in the other; but the simplest is the first or second, and they are the safest to adopt. It must always be remembered that the bark of the bud or graft must touch the bark of the stock, and be completely fitted to it on one side, if not on both. There is only a necessity with regard to one side, when the stock is larger than the scion or bud; and hence it is quite certain that if a graft were put in the centre of a stock, it must fail; but that if the bark be fitted on one side it will unite; this is material. In grafting of all sorts, a neat fit, the bark of both touching, ensures success; the reverse produces a failure. In grafting a good strong scion on a stock, it is a common thing to make the union in the middle, and to let the under half, which hangs below the union, go into a phial of water tied to the place, so as to feed it with water while it is uniting; but this is only desirable when the piece intended to be grafted is too large to venture with the limited nourishment of the stock.

The advantage of all kinds of grafting over the inarch grafting or grafting by approach is, that a man may use up all those shoots which may come off, without injur-

ing the appearance of his collection of plants, and keep the plants in their proper situations, instead of being obliged to spoil the appearance of his best specimens, by either placing the pot of stocks about his best houses, or removing his plants to another place. Camellias require very different treatment for blooming and for propagating by inarch grafting; consequently, if a handsome specimen have two or three shoots too long, or have here and there a shoot which could be well spared, he must, if he inarch it, submit the specimens to the treatment of the grafting-house, or bring the stocks into his show-house, and disfigure the plant by tying the spare shoots to stocks in pots, fixed all about it; whereas, if they were cut off at once the plant would be improved, and they would do the grafting in a proper place, without interfering with any of the principal houses.

PROPAGATING BY CUTTING.

This mode is seldom practiced for any but stocks, because of the time lost in the getting up of the plants to any size, and the generally less healthy and vigorous state of the plant in advancing years. Many of the varieties of Camellia are naturally delicate, and their growth weakly, compared with others. All the singles, and many of the semi-doubles, are of exceedingly robust habit, and these are selected for stocks. Two joints are enough for a cutting, one under ground and the other above; but as there is generally plenty of stuff to be had adapted for stocks, the ends of shoots are mostly selected, two or three joints above the soil and one joint under, because they sooner make large plants, and the top bud takes the lead. The cuttings are prepared by cutting the wood away below the bottom joint and issue of the lower leaves, that the roots may proceed from the eyes there. A pot of the ordinary kind is filled thus: crocks, one-third; compost, to within an inch of the top of the pot, levelled properly, and struck upon the potting table two or three times, to settle it moderately firm; the last inch is filled with silver sand, and the whole gently saturated with water. The cuttings are then placed very thick, not an inch apart, by sticking them through the sand

to touch the compost, but not to go into it, filling the pot all but enough room round the edge to admit of a bell glass being covered over, and the edge being pressed into the sand; a little gentle watering with a fine rose closes the sand all about the stems; and they are to be covered with the glass and put into gentle bottom heat, and a paper over them for shade. The glass may be left a few days, say three or four, without being touched; but in the event of there being the least signs of dryness, water over the glass so that it may run down inside the edge of the pot,—the sand will soon be saturated. The glasses may be removed about the fourth day and wiped, the cuttings watered all over with a fine rose, and be covered again, the glasses being first wiped dry inside. Attention to these matters must be given every morning, but on no account omitted more than one day. The lower compost, absorbing and drawing together, keeps the sand pretty dry, and every two or four hours they ought, by rights, to be refreshed, in case of the sand being too dry, and the glasses be wiped perfectly dry inside. In a few weeks these cuttings will begin to grow and root, for they will grow before they are actually rooted; and when thoroughly rooted, they should be potted off into large sixty-sized pots, one in each. Put a lump of peat, or some moss, or some crocks, in the bottom of each, an inch thickness, then a little compost, highest in the middle; now take the pot of cuttings, and water them thoroughly; then strike the pot on the table, gently, on its side, and the sand and compost will loosen on the side that is upwards; do this all round by turning the pot, when by a jerk the whole ball may be delivered on the table. This enables you to remove them one by one, with all their roots. Hold them upright, one in the middle of each pot, resting it on the soil already there, or pressing it down a little, if necessary, and spreading the roots out all round the centre, but keeping the roots pretty nearly to the top of the soil—for none of the stems ought to be buried—filling up all round with compost, gently pressed down round the side. Well water them, and keep them under glass, shut up a day or two, all shaded.

If quite convenient, they would be all the better for returning to a little warmth a few days, but they must be carefully shaded. When once they have established their roots and are growing again, you must be guided by your means as to how long you will keep them in the gentle heat of a propagating-house, or pit, or declining hot-bed—all of which are good for them; or whether you will pot them to make their growth without heat. When they have completed their growth, which, under any circumstances, will be in a few weeks after they start, and their wood is thoroughly ripened, or any time afterwards previous to their growing, they must be repotted into forty-eight-sized pots; and while under hand for this purpose, all the side and useless shoots may be trimmed off. The potting to be done as before, and all of the plants to be put into a brick pit, without heat, but under glass, for protection. Here they may make a second year's growth, in which state, or any time after, they will be in fine order for grafting. Many prefer very strong stocks; and although one year potted are often used, for new and scarce varieties two years old is as young as they ought to be; and so that they are repotted every year, and never allowed to be pot-bound, the older a stock is, the more rapidly does a new variety grafted or inarched on it become a considerable tree; the growth being not only more rapid, but also more vigorous and more noble; for the foliage is larger, the bloom larger and more durable, and the colours better. Stocks are hardy and healthy enough to thrive in a pit or wooden garden frame or light, after they are once established; so that it is not only little trouble, but it is very desirable to keep up a number of healthy stocks of all ages, doing a few every year, and repotting them from season to season, so as to have always ready some of any size and about every age that they can be required, whereon to graft the prunings of the best plants, and any new variety you may procure, that it may be desirable to propagate.

MANAGEMENT OF LARGER PLANTS.

The Camellia is one of the least difficult to manage of any half-hardy evergreen shrubs. They require attention of the

most ordinary kind, and not much of it. Their routine is to bloom, to commence a new growth all over, which, when completed, exhibits the bloom buds at the ends of all the shoots, to rest awhile, or do nothing but very gradually swell the buds, flower, and grow again. Many complain that their Camellias do not set well for bloom. There is one thing that will prevent them from doing so; and that is, a check while they are making their growth. This check may be occasioned several ways. Too great a change in the temperature they are growing in, want of pot room, want of moisture, want of good drainage, poor, exhausted soil; all, or any one of these, will occasion an imperfect development of the growing plant, and prevent it from forming bloom buds. It is not wise to make any changes of the pots while the plant is rapidly growing, because unless it be done with more care than is generally bestowed upon the operation, it gives a great check. When the plants are in a state of rest, that is, when the foliage has completed its growth, and before the buds begin to swell, it may be done, with care; but the safest time, and when the plant derives most benefit from it, is when the bloom has declined, and the plant is about to grow. By giving good pot room at this time, the plant is enabled to make strong, healthy growth. Turn out the balls of earth whole, remove such of the crocks or drainage as will come away without disturbing the roots; and take off as much of the surface mould as will come off without damaging the fibres. Then use a pot that is a good inch larger all round; that is to say, two inches wider across than the old one. Put in plenty of crocks, next a little of the compost, then place the ball so that it will be nearly even with the edge of the pot; fill up all round, pressing the compost between the ball and the sides of the pots, very carefully, with the finger, or hand, or a piece of wood; but on no account disturb any of the fibres that are outside the ball. When this is properly adjusted, water, to settle the compost about the roots, and place them in a protected place—a pit, under glass, is the best; and shut them up two days, without opening them to the wind, or allowing the

sun to shine on them. They may then be left to make their growth, either in the green-house, the conservatory, or the pit, which should be opened on mild days, to admit air and prevent them from drawing, and constantly watched, that they never want water; for while the growth is making they require a good deal of it.

In our practice, we thought it worth while to have a canvass house, into which all the Camellias were removed the beginning of June, where they had all the benefit of the full air on warm days, though perfectly shaded from the sun by the canvass roof, which rolled up or down as required, and by the side blinds, which opened outwards, and could be set horizontally. It was as large as an ordinary conservatory; and all our hard-wooded plants, as well as the Camellias, were in it all the summer. The advantage of shading, without depriving plants of the light, is not half appreciated; and the still greater benefit arising from the supply of air through canvass, even when all closed down, to keep off high and dry winds, must be seen to be sufficiently valued. But as everybody has not got the convenience, it should be remembered that all the while the plant is making its growth, there should be no harsh wind admitted; the sun should not be allowed to shine full upon it; and every pains should be taken to prevent a check.

Another point is worth attending to, very carefully; and that is, as soon as the shoots commence growing, any that are in the way, or are growing in the wrong place, should be removed at once, to prevent the plant from exhausting itself in useless blooms. The exceptions to this are, when the plant is wanted to be propagated from, in which case all the wood may grow, to be cut off after it has ripened. The plants ought not to be disturbed until the growth has completed itself, when it is almost certain that the plants will have become thickly set for bloom. The plants may then be set in the shade, in any protected situation—the cooler the better—and there must not be any water given until the compost in which they are growing is getting towards dry. But, generally speaking, the rain affords enough. Yet, there must not be any flagging of the plants for want of moisture. It

has to be considered that they are not growing, and consequently do not absorb much moisture. The hard-wooded plants, in general, would do best in the same situation, a sheltered spot; that is to say, protected against north and north-east winds, by a fence or wall, at proper distance, and shaded by trees or canvass from the heat of the mid-day sun. They should also be on wood or stone, or paving of some kind, to prevent the roots protruding and laying hold of the ground, which causes a very dangerous check, when removed to the winter quarters. If they are necessarily

placed on the ground, however hard it may be, the pot should be frequently turned round to prevent the roots from striking into the earth. Towards the autumn the bloom buds will be found to have swelled a good deal; and where they are too thick, some should be taken off. It is the habit of some to leave three or four in a bunch; this is bad, and they ought to be reduced before they are put into the blooming-house, and not more than one should be at the same joint, or if two, they should be on opposite sides of the stem.

(To be continued.)

THE DIANA GRAPE.

EVERY fruit-grower will be glad to hear that a new native grape has at last been proved, which is really superior to the Isabella and Catawba.

Such a grape, we are now prepared to say, as the Diana. It has fruited abundantly, for two years past, in the garden at Wodenethe, the residence of our neighbor, H. W. SARGENT, Esq. We said nothing of its qualities last year, because we would not praise it as it deserves upon the experience of a single season; but, after tasting it again, repeatedly, this season, we do not hesitate to rank it as the best of American grapes.

Though yet almost entirely unknown in collections, the Diana was raised several years ago by Mrs. DIANA CREHORE, of Milton Hill, near Boston, and was very briefly described in our work on Fruits. As the climate of New-England is not so favorable to the ripening of native grapes as that of the middle states, it seems until lately to have attracted but little attention there. Some specimens, sent from Boston to the Congress of Fruit-growers in New-York this autumn, were not sufficiently matured to show the fine flavor of the fruit, as ri-

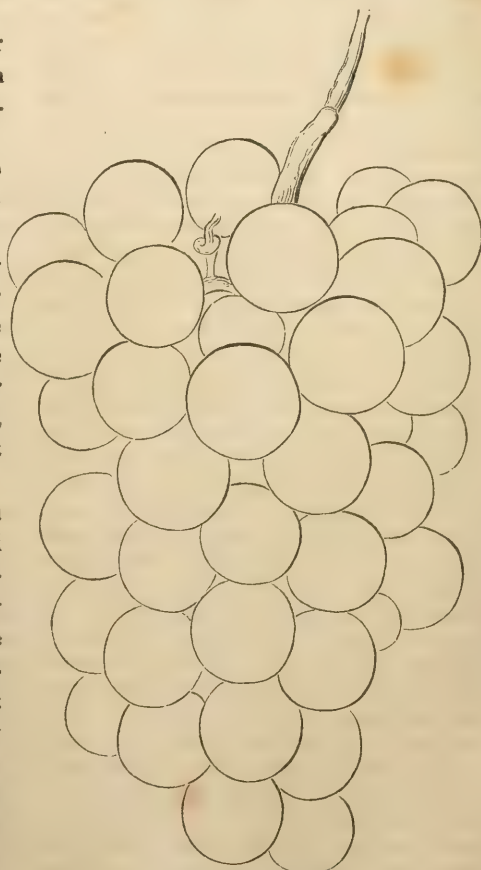
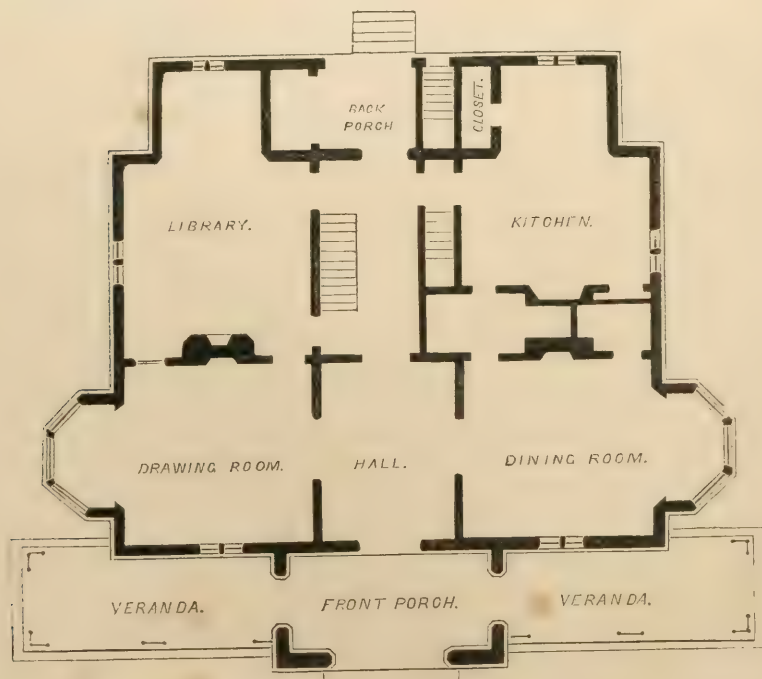


Fig. 88.—The Diana Grape.





COTTAGE VILLA OF WM. J. ROTCH, ESQ., NEW BEDFORD, MASS.



PRINCIPAL FLOOR.

pened on the Hudson. We were glad, however, to learn from the remarks of Messrs. FRENCH and WALKER that it is now considered the best native grape in Massachusetts.

The Diana is a seedling from the Catawba, and, in general appearance and character, resembles its parent. It is, however, an entirely distinct variety, of a more delicate pale red colour, with less pulp and more juice than the Catawba. The bunches are also distinct, being quite compact, while those of the Catawba are always loose. It is an abundant bearer, and in its growth is equally vigorous with its parent.

The Diana, when fully ripened, is a finer flavored grape than either the Isabella or Catawba. It most nearly resembles the latter in flavor, but is more delicate, and

has less of the peculiar wild taste of the native grape.

Perhaps the greatest merit of this new variety is, however, *earliness*. It ripens, on the Hudson, a week or ten days earlier than the Isabella, and, of course, a fortnight or more before the Catawba. It is evident, therefore, that it will be a decided acquisition to all those parts of the northern states where the Isabella and Catawba will scarcely ripen. It will not, perhaps, ripen so far north as the Clinton grape, (now so well known about Rochester;) but it is much superior in flavor and beauty of appearance.

We believe a few plants of the Diana may be had in some of the nurseries about Boston; but it is as yet scarcely at all known to cultivators, and we would direct the attention of nurserymen to the advantage of propagating so fine a grape.

MR. ROTCH'S COTTAGE VILLA AT NEW-BEDFORD.

DESIGNED BY A. J. DAVIS.

OUR FRONTISPIECE presents an elevation of a substantial and ornamental cottage villa, built at New-Bedford, for the residence of WM. J. ROTCH, Esq., from the designs of Mr. DAVIS, architect, New-York.

It is a pleasing specimen of the Rural Gothic cottage; and we offer it as a study, to those about building cottages in the country.

It is, in general plan, modelled after the cottages of English rural landscape, in a style which harmonizes well with picturesque scenery.

For this climate we prefer, for a house of the accommodation afforded by this design, a full second story; which is easily given by raising the eaves about three feet

higher. This enables us to introduce entire windows in the bed-rooms, leaving the apartments for domestics to be lighted by dormer windows in the attic.

Perhaps the mode shown in this design (of building one and a half story,) is more cottage-like and picturesque; but our warm climate makes a full second story so desirable, that in all but small dwellings we would endeavor to obtain it,—even at a trifling surrender of external effect.

This dwelling is built in brick and stucco, and the ornaments are carved in a heavy and solid manner, and with that attention to correctness of detail which marks all Mr. DAVIS's designs.

THE CONGRESS OF FRUIT-GROWERS.

Nothing could well be more satisfactory than the late session of this body at Castle Garden, New-York, during the first week of October.

The past season, so unusually unfavorable, not only to the production of fine fruits, but to the collection of information respecting them, led us to anticipate a very indifferent attendance on this occasion, and a want of that lively interest in the topics to be discussed which grows out of poor crops and disappointed hopes.

Great was our surprise, therefore, on finding the large hall, devoted to this purpose, filled with delegates from almost every portion of the United States—from Maine to Georgia, and as far west as Illinois; and greater still our gratification, to see that these were not merely so called delegates, representing the different horticultural, pomological and agricultural societies in various sections of the Union, but men of the highest stamp, as regards practical skill and pomological knowledge—the concentrated experience and knowledge of the country on these subjects; so that the officers of the meeting had only to call for information, regarding the success or the failure of any tried variety of fruit, and Maine, Massachusetts, Ohio, or New-York, or some other state, was there, in the person of her most experienced cultivators, ready to give her evidence either to damn an outcast fruit to the "rejected list," or to raise it to the company of good and tried names, worthy of a place in the orchard or garden of all seeking and doubting horticulturists. Every one attending that convention must have been struck with the great value, to the horticulture of the country, of this array of experience from so

wide a range of the Union, and with the far greater importance and utility of the meetings of such an association, over those of any local horticultural society.

The first step was to appoint a committee, to meet another committee sent by the N. A. Pomological Convention, for the purpose of uniting those two bodies into a single one, of a completely national character. We are glad to be able to say that this was done by unanimous consent, and so entirely was the whole convention of the opinion that there should be but one body of the kind, that the consolidation was effected immediately, and with the largest spirit of good will and fraternity on all sides. The consolidated association is to be known hereafter as the *American Pomological Congress*, and is to hold its next session at Cincinnati, in September, 1850.

After this, the chairman of the general fruit committee brought forward a "rejected list" of fruits, considered unworthy of large cultivation. Notwithstanding a little opposition from a few of our friends, who are pomological universalists, and think that not even choke pears are worthy of eternal condemnation, the Congress entered very heartily into the consideration of the list, and made an excellent beginning of a good work, by passing sentence on a pretty large number of sorts which have been extensively tried, and found wanting. In order to give the arraigned culprit the benefit of a doubt, an objection from any member of the Congress was sufficient to prevent his being sentenced; but if no one spoke in his behalf, he was voted unworthy of longer good fellowship in any catalogue, garden, or orchard.

After dispatching this rejected list, which

occupied a whole day, the meeting took up the consideration of varieties worthy of being added to the list for general cultivation. Many and interesting were the discussions elicited by this part of the proceedings; and we will venture to say that more information, regarding the merits of various sorts of fruit—information which had for years before laid dormant in local experience—was made common property by these discussions, than it would have been possible to acquire in a hundred years, by the widest experience of any one individual.

We must not omit to mention the display of fruit, which filled, to overflowing, the tables in the hall. Every member went to the convention with the feeling that, in such a season, there could be no show of fruit, yet hoping, by the specimens he carried, to give some little interest to the session; and every one, on the morning of the second day, was astonished at the extent and variety of the exhibition—certainly much the largest and most varied pomological show in the country this season. We regret that our want of space this month obliges us to refer to the Report of the proceedings for the list of varieties and names of contributors.

Not the least important part of the business performed, was the adoption of concise by-laws for the government of the association; and a most valuable feature embraced by them, is the formation of a new GENERAL FRUIT COMMITTEE for the whole country. This committee consists of the chairmen of the fruit committee of every horticultural and pomological society in the United States and Canada, who are henceforth to be considered as composing it,—all under the direction of the chairman of the whole, appointed by the Pomological Congress. This arrangement, based upon

the belief that each horticultural society puts its best men at the head of its fruit committee, (as it is for its own reputation bound to do,) gives the Congress a *perpetual fruit committee*, which embodies the most active talent and information in the country. We shall look to this committee with confidence, as one fully able and willing to collect and make known everything on the subject of fruits and fruit culture within its farthest reach; so that the budget of the next session shall be one unusually rich in valuable information.

We must refer our readers for further details, and for the reports of the state committees, to the printed Report, which will soon be published. We will only add the list of fruits adopted and rejected, for the benefit of cultivators, who may wish to make immediate use of it.

LIST OF FRUITS FOR GENERAL CULTIVATION.

PEARS.

Rostiezer,	Uvedale's St. Germain, or
Andrews,	Pound.
Fondante d'Automne.	Louise Bonne de Jersey,
Fulton,	Uvedale's St. Germain, <i>for</i>
Urbaniste,	<i>baking.</i>
Vicar of Winkfield.	

APPLES.

Swaar,	Bullock's Pippin.
Porter,	White Seek-no-further,
Fameuse,	Winesap,
Vandevere,	Lady Apple,
Hubbardston Nonsuch,	Wine Apple,
Danvers Winter Sweet,	Red Astrachan.

APRICOTS.

Large Early,	Moorpark.
Breda,	

NECTARINES.

Downton,	Early Violet.
Elruge,	

GRAPES,

(for culture under glass.)

Black Hamburg,	White Frontignan,
Black Prince,	White Muscat of Alexandria,
Black Frontignan,	Chasselas of Fontainebleau.
Grizzly Frontignan,	

(for open culture.)

Isabella,	Catawba.
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CURRANTS.

Red Dutch,	May's Victoria,
White Dutch,	White Grape.
Black Naples,	

GOOSEBERRIES.

Houghton's Seedling,	Laurel,
Woodward's Whitesmith,	Ironmonger,
Crown Bob,	Early Sulphur,
Red Champagne,	Green Gage,
Warrington,	Green Walnut.

RASPBERRIES.

Red Antwerp,
Knevet's Giant,

Fastolf,
Yellow Antwerp.

STRAWBERRIES.

Large Early Scarlet,
Boston Pine,

Hovey's Seedling.*

The following list was adopted by the convention as new varieties, which "give promise of being worthy of being added to the list for general cultivation:"

PLUMS.

River's Favorite,
St. Martin's Quetsche,

McLaughlin.

PEARS.

Beurre d'Anjou,
Doyenne Boussock,
Manning's Elizabeth,
Doyenne d'Ete,
Striped Madeleine,
Duchess d'Orleans,
Pratt,

Paradis d'Automne,
Van Assene,
Jalouse de Fontenay Vendee,
Chancellor,
Ananas d'Ete,
Brandywine,
Out.

STRAWBERRIES.

Burr's New Pine,
Jenny's Seedling.

* We also repeat here the list adopted for general cultivation last year:

APPLES.

Early Harvest,
Large Yellow Bough,
American Summer Pearmain,
Summer Rose,
Early Strawberry,
Gravenstein,
Fall Pippin,

Rhode Island Greening,
Baldwin,
Roxbury Russet,
And, for particular localities,—
Yellow Bellefleur,
Esopus Spitzenberg,
Newtown Pippin.

PEARS.

Madeleine,
Dearborn's Seedling,
Bloodgood,
Tyson,
Golden Beurre of Bilboa,
Bartlett,
Williams's Bon Chretien, or
Bartlett,

Seckel,
Flemish Beauty,
Beurre Bosc,
Winter Nelis,
Beurre d'Arenberg,
And, for particular localities,—
White Doyenne,
Gray Doyenne.

PEACHES.

Grosse Mignonne,
George IV.
Early York, *serrated*,
Large Early York,
Morris White,
Oldmixon Freestone,

Cooledge's Favorite,
Bergen's Yellow,
Crawford's Late,
And, for particular localities,—
Heath Cling.

PLUMS.

Jefferson,
Green Gage,
Washington,
Purple Favorite,
Bleeker Gage,

Coe's Golden Drop,
Frost Gage,
Purple Gage,
And, for particular localities,—
Imperial Gage.

CHERRIES.

May Duke,
Black Tartarian,
Black Eagle,
Bigarreau,

Knight's Early Black,
Downer's Late,
Elton,
Downton.

RASPBERRY.

Knevet's Giant.

GRAPE.

Diana, (native.)

LIST OF REJECTED FRUITS.

APPLES.

Gloucester White,
Henry's Weeping Pippin,
Gray House,
Red Ingestrie,
White Ingestrie,
Lord Nelson, (Kirke's),
Marmalade Pippin,
Rowland's Red Streak,
Woolston's Red Sweet,
Woolston's White Sweet,
Golden Reinnette,
Pennock,
Hoary Morning,

Large Red Sweeting,
Red Doctor,
Grand Sachem,
Beachamnull's,
Cathead,
Caroline, (English),
Dodge's Early Red,
Fenouillet Rouge,
French Gray Reinnette,
Muscovia,
Irish Peach,
Pigeonette,
Salina.

PEARS.

Croft Castle,
Alexander of Russia,
Admiral,
Aston Town,
Autumn Bergamot,
D'Amour,
Angers,
Beurre d'Angleterre,
Beurre Sentin,
Beurre of Boswiller,
Bon Chretien d'Esperen,
Bon Chretien of Brussels,
Bergamotte Sylvange,
Bergamotte Fortunee,
Beauty of Winter,
Belmont,
Bezi Vaet,
Bruno de Bosco,
Blangant à longue guene,
Bingo Master,
Cuvelier,
Chat Grille,
Chain a Dame,
Charles Van Mons,
Cassolette,
Compte de Fresnel,
Copea,
Caillat Rosat,
Clara,
Clapp,
Citron de Sierens,
Dearborn of Van Mons,
Downton,
Duquesne d'Ete,
Doyenne Mons,
Deschamps' New Late,
Dunbarton,
Doyenne Diere,
Endicott,
Elton,
Frederic of Prussia,
Famenga,
Forme Urbaniste,
Fantasie Van Mons,
Forme des Delicas,
French Iron,
Green Zair,
Grise Bonne,
Gamstone,
Green Catharine,

Green Sugar,
Gros Blangart,
Green Chisel,
Hays,
Hathorne's Seedling,
Horticulture,
Hastivea,
Ipswich Holland,
Jargonelle, (of the French)
Kramelsbirne,
Lincoln,
Louis of Bologna,
Lederbirne,
Louis Bonne,
Lansac,
Madam Vert,
Millar's Seedling,
Marquis,
Marcelis,
Navez,
Orange,
Orange Tulippe,
Phillips,
Pittfow,
Platt's Bergamot,
Passe Long Bras,
Prince sPortugal,
Pope's Scarlet Major,
Pitt's Marie Louise,
Royal d'Hiver,
Rouse Lench,
Rousselett St. Vincent,
Sans Pepins,
Swan's Egg,
Surpass Meuris,
Saint Bruno,
Swiss Bergamot,
Sousreine,
Sickler, [shire,
Thompson of N. Hamp-
Tucker's Seedling,
Trubserherdz Dulle,
Whitfield,
Winter Orange,
Wurtzer d'Automne,
Yule,
Crassane,
Winter Crassane,
Citron of Bohemia,
Madoitte.

CRITIQUE ON THE SEPTEMBER HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

THE LEADER—*Cockneyism in the Country.*—It is related of BEAU BRUMMEL that, dining with a lady in the country, when asked by her if he ate vegetables, answered, with his usual nonchalance, that he recollected of once having eaten a pea! And BRUMMEL was no bad type of his class in our day, who affect great taste in rural matters, to the merits of which they are as much strangers as their great prototype professed he was to the vegetable. In fact, it is one of the grievances of the time, that, in the neighborhood of our large cities and towns, the most wanton abuse of correct taste, and senseless squander of money, is perpetrated by many who affect country life, in the planning and erection of their dwellings, and the disposition of their grounds. Nor do we see a ready cure for all this mischief, so long as so many "fancy" architects, who know nothing of the true requirements of country life in a dwelling, are deluging the land with their absurd gimcracks, under the names of designs for cottage *orneés*, villas, and the like; and while those who want the buildings will submit to their exactions.

In the amusing and witty papers of "Salmagundi," the sage LINKUM FIDELIUS is quoted for the definition of a word, thus: "Style is—style;" and such definition may most aptly apply to the multitude of models now extant for country houses, without any further reason for their outré appearance than that—it's the "style." Of what style they are, it would puzzle a "Philadelphia lawyer" to tell; for they might be worshipped by any one without profanation,—being in "the likeness" of nothing ever heard,

seen, or dreamed of. We may infer from the lamentations of ancient Solomon, that in his "vanity of vanities" he had encountered the fantastic ebullition of his Israelites—a row of cottage *orneés*.

But seriously, is this absurdity always to continue? Have we no leading mind in America, who can guide the public taste into the construction of proper and convenient houses, mansions, or villas, if you please, in a style that shall comport with the condition, circumstances, and requirements of the American people? If not, the sooner some one of the right spirit can set himself about it, the better. He would be truly a benefactor to his countrymen. There are several styles of architecture, suited to the different localities and climates of North America, all proper and right in themselves, which would beautifully comport with true taste, and the entire convenience of the occupant, and yet be economical, and in keeping with everything around them. To an American, about to build in the country, it is a consideration of some importance to know, that after erecting his dwelling, it is three to one that not a child of his own will occupy it for twenty years after him; and that if any considerable amount of extraordinary expense is incurred in its construction, such expense will be a dead loss to those who succeed him; or, as is much oftener the case, to himself, when disposed of. This is a country not of entails, but of change,—of division of estates; and more particularly in fancy property,—as country seats, and residences of city people usually are—they change hands almost as often as stocks, and articles of merchandise. Consequently

it is the height of folly to lavish such extent of thousands, as is often done, to fit up a country residence for but a few months in the year; or, if intended to be permanent, for but a few brief years at the farthest. You may count, within your own knowledge, scores of country establishments which have changed hands a dozen times within the last thirty years; and perhaps each one of them have cost, as they passed through the alterations and *improvements* of their different owners, in the aggregate, three, four, or five times the amount they would now sell for; and the land to which they are attached, after all, only in decent condition for farming purposes.

Country residence, with many, is but another sort of fashionable dissipation; and the style and arrangement of their houses and furniture is settled with about the same system and knowledge, on the part of the occupant, as he would exercise in the selection of his chariot, or his tilbury. What wonder, then, that the ephemeral kickshaw should grow tiresome, and be tossed off his hands as inconsiderately as it was purchased, or built; the loss—as it is sure to be—mutteringly pocketed, and “country life” condemned as a humbug!

This is all wrong. You cannot do better than to expose the ridiculous propensity now so prone to introduce a false taste into country life. The good sense of the public is with you, and I beg you will persevere until a thorough reform is effected. More of this anon.

On Root Grafting, &c.—Mr. HOOKER is perfectly right in his views on this subject; and any one who will examine the beautiful and thrifty nurseries of western New-York, where this system is generally practiced, will acknowledge its superiority.

Horticultural Suggestions, &c.—This article, from Professor TURNER, is in the right

vein. The *practical* experience of cultivators is what we require for our improvement; and unless we know both sides of the story, we are sadly apt to baulk in our progress. There are phenomena, and latent elements in the climate and soils of the broad west, that require different treatment in the cultivation of many of their fruits, which do not exist in the older and less *naturally* fertile states. Acclimation will be one of the chief preventives to the soils now so much complained of by cultivators in such localities; and it is to such as Professor TURNER, that we must look to experiment upon, and ascertain the proper kinds of fruits for culture, and the best methods of treating them. I hope he will continue his useful “Suggestions.”

Iron Roofed Vinery.—“There’s nothing like leather,” said the currier, in the fable, when the different mechanics were called in council, to advise the strongest mode of fortifying the town, after the mason had recommended stone, and the carpenter had suggested wooden walls, for the purpose.

It is here quite as natural that an iron-founder should build his vinery of iron, and recommend it to others; and I like the enterprise of his experiment right well, too. I should like to hear from Mr. RESORR five years hence, when the frosts, and the damps, and the shrinks, and the swells, and the lightnings and electricities of all sorts, have played their pranks around it, as they will be sure to do. Iron is yet to be—when it can be made cheap enough—introduced into a great many structures that we hardly yet dream of; and if the same advantages can be had in the construction of conservatories, vineries, and hot-houses, with iron, as with wood, its durability will prove its greater merit. Mr. RESORR’s plan is at least ingenious, and I trust it will be successful. He is entitled

I have known fruits which were very fair immediately around the spot where they originated, almost worthless when planted but a few miles away on other soil, and in other exposures. Few fruits in the world are of *general* adaptation.

As for "Giant Asparagus," it will grow anywhere with *rich* soil and *deep* culture, no matter where you get the seed, or the roots. I have gone through all *that* story.

But J. is one that *will* succeed. No one so willing to inquire as he is, will fail in arriving at the best way of doing all these things, by-and-by.

Mulching Gooseberries.—No doubt of it. "It's according to nature;" and if a thousand other things were mulched besides, instead of exposed to the scorching rays of a summer sun, in a hard, dry soil, it would be all the better.

REMARKS ON THE DISEASES OF THE PEACH, PLUM, AND CHERRY TREE.

BY H. J. EHLERS, BARRYTOWN, N. Y.

WHOEVER has observed, with attention, the growth of fruit trees in this country, must frequently have seen with surprise the peach and plum tree struck with disease, and dying early, while other fruit trees appear in a sound condition, and live to a great age. The cherry tree, also, seems to be less healthy in this country than in Europe.

This fact justifies the suspicion, that these trees contain in themselves properties not to be found in such as remain healthy; and it is known that they differ from all others, in the abundance of a substance called *gum*. Let us now inquire whether we can trace any connection between the existence of this substance and the predisposition to disease?

In the healthy tree, gum is found mixed with the sap in a dissolved state; when the tree is in a diseased condition, gum is secreted, and driven to the surface as a transparent, adhesive substance. In its normal state (dissolved in the sap,) it exists only in the bark; that is to say, in those vessels through which the sap, elaborated by the leaves, descends to form a new growth of wood. Gum is soluble in water,

and its greater or less degree of fluidity will depend on the quantity of water employed in its solution. By the simple process of evaporation, it can be reproduced in concrete form; and is, therefore, in a high degree qualified to pass through the various stages of fluidity, under the reciprocal actions of heat and moisture. The health of a tree depends on the free circulation of the sap; and if this circulation be *at all impeded*, the tree becomes *diseased*, and, if not relieved, death ensues.

May it not, therefore, be believed that the diseases of the peach, plum and cherry arise from impeded circulation, since they are, in this country, invariably accompanied by bursting or rupture of the bark? And may it not be inferred, that this impeded circulation is caused by *gum*, when we remember the qualities of this substance, and how it may be acted upon by the excessive heats of the American summer? The influence of the sun-beams, when the air is clear, is very powerful, and must necessarily cause an evaporation more or less rapid in proportion as the heat is increased or diminished. In those parts of the tree which are exposed to the sun, the juices

are drawn forth, and the gum, becoming less fluid, moves more slowly, and gradually accumulates in, and obstructs the natural passages; while, in other parts, the tree being subjected to more genial heat, a *more* active circulation is maintained. The consequence of which is an expansion, and at last a bursting of the vessels through which the sap flows, at those points where the obstruction exists; and then ensue warts, or knobs, or an effusion of sap, and eruptions of gum. Though this is only theory, and needs to be verified by actual experiment and chemical research, yet it derives support from the practice of many gardeners. It has been stated on sufficient authority that *salt*, applied to the soil about a plum tree, will prevent the black wart. If our argument be correct, the result of the action of salt is obvious enough: the tree receives in its system a solution of salt, which, by its nature, attracts moisture, (or gives greater fluidity to the sap,) and communicates it to the gum; thus preventing the concretion that would check circulation. The cause of the disease (excessive heat,) is not removed by the application of salt; but it acts as an indirect remedy; it alters the secretions of the tree, so that the same cause does not produce the same effect.

We are aware, that plants brought into a condition contrary to their nature lose, to some extent, their vital powers; and that,

in consequence, a formation of slime-sugar (*saccharum mucosum*) takes place. It always follows a great decrease of phlegm, (*principium mucosum*,) which last substance abundantly exists in peach, plum, and cherry trees. In the capacity of the plant to produce slime-sugar at the approach, or, rather, in a certain stage of disease, we see how nature provides the means of accomplishing her ends, since the reduction of the plant to dust (its last destination, in the usual order of things,) is brought about by decay, and the first step towards decay is fermentation. Nature, then, has recourse to that powerful principle of fermentation—slime-sugar—to begin fermentation, and that the taste and odor of this substance will summon to its aid those additional agents of destruction,—insects. When, therefore, we perceive, on diseased fruit trees, swarms of insects, let us not confound the effect with the cause, but rather attribute their presence to the disease, than the disease to their presence. H. J. EHLERS,

Landscape Gardener.

Barrytown, N. Y., Oct., 1849.

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[The foregoing suggestions are quite new to us, and come from one of the most intelligent German gardeners in the country. They appear to us to be worthy of the serious attention of our physiological readers, interested in the diseases of stone-fruit trees. ED.]

FOREIGN NOTICES.

GREEN-HOUSE AND WINDOW GARDENING.—*Housing.*—Nurserymen in all parts of the kingdom are now busy among their young stock preparing for “housing” it, by which term they describe putting plants under glass. You may see rows of men at this work in every great nursery, and there the division of labor is carried out to a great extent. The first person takes up the pot, raps the edge of it on something solid—sometimes on his own knee, or against the point of his shoe, or,

what is not a bad contrivance, against the tread, or shoulder, of the blade of a spade stuck firmly in the ground beside him for the purpose. This first move is, or should be, done rapidly, and is intended to look out for worms which may have got access to the pot, and if they got the least warning of approaching danger you lose sight of them for that day. The next move is to see that the drainage is perfect, and a little adjustment of the crocks, if needs be, will soon put that right.

Then the pot is passed to a second person, who, with an old knife or a flat piece of stick, removes any dirt or moss, weeds, &c., from the surface; therefore this division of the occupation is called "surfacing." The pot is then handed on to a third person, to be cleaned with a wisp of dry hay or straw, or with a cloth, or, if very dirty, with a scrubbing-brush and water. This last, though the most drudging part, must be put into careful hands, as an unaccustomed workman might destroy a valuable collection by the mere simple process of washing the outside of the pots, so that my readers who are nursing on a smaller scale had better see to this important point. The water in the tub must soon get very black and nasty from the slime and dirt scrubbed off the pots, and if this is allowed to soak the earth inside the pot it will glue the whole together, so that the plants will not seem to want for water for many days; and when it is given them it will hardly pass into the soil at all, but must run down by the sides; therefore it should be made conditional with him, or her, who washes flower-pots in the autumn, or, indeed, at any time, that none of the water touches the soil, not even if the inside of the rim of the pot is green and must be washed. After that, the old stakes, if any, should all be tested, to ascertain if they are still sound and in their proper places; but, if the plants are intended for a green-house or window, this part may be left undone; and also new or proper labels need not be provided till the first bad weather will stop out-door work. It would also give a neat finish to the whole if a slight covering of fresh soil were put over that in each of the pots, first seeing that the old soil is uniformly moist, and then, with a fine rose, to give a slight shower over the foliage, earth, pots, and all. If the stages, glass, paths, &c., are clean and dry, and you allow the plants to get dry also after this preparation, there is no reason why they should not do very well for a long time; and the only other point which occurs to me at present is this, that, as soon as plants are "housed," the watering should henceforth, for the winter season, be done early in the day and never in the afternoon, for reasons which must be plain enough to any one who has hitherto read *THE COTTAGE GARDENER*. Another very wise plan at this season would be to look out all green-house or half-hardy plants that have been growing out of pots in the open garden, and such of them as are intended to be potted again, or even to be taken up to shelter from the frost, and to be secured in sheds or cellars, should now have their roots gradually prepared for the change, as I have remarked on some weeks since, by cutting a portion right through with a spade. Besides the advantage of making more sure at the time of taking up such plants, their growth in the mean time is checked, therefore they will ripen the young wood better; and, if they are late flowering plants, such as *Scarlet Geraniums* (they are not *Pelargoniums*, at

any rate,) and the soil is rich and damp, they will now make more leaves and shoots than flowers, but by a little curtailment at the roots this disposition is reversed. In the case of half-hardy shrubs in the open borders, which are to be potted or even protected where they stand, a little cutting of the roots would now be very useful to them, and also a regular pruning all over the branches, cutting back the softest part of the tops. Seedlings of these plants, when turned out in the open soil, have a natural disposition to ramble away late in the autumn, and if this is not checked in time no one can keep them over the winter.

Scarlet Geraniums are often taken up, carefully potted, and put in the shade for a week or ten days, about the end of this month, and when they do well that way continue their bloom for some time, and are very useful in the green-house. This cutting off the roots previously to their removal would almost insure success. I have heard of people putting these and similar plants into a close hot-house as soon as they were potted from the borders, to make them root the faster, as they said; but the truth is, although they may root freely enough, the sudden shifting will assuredly injure their bloom for the rest of the season. Every one regrets the loss of favorite specimens, which grow too large or cannot well be removed after they are once planted out; but with a preparatory cutting of their roots and top branches they may be preserved for years.

A section of the *Scarlet Geranium* called *Nosegays* will bear a smart forcing in February and March, if they are now properly prepared, so as to be ready for their flowering pots by the end of October. Plants of them two years old answer best for forcing, but any healthy plants of them now growing in the borders may be so managed as to come into bloom before the middle of April with a little spring forcing. The roots are not to be cut at this stage; but all their side branches and their leaders must be cut close, not leaving more than a couple of eyes on any of them. As the *Nosegays* are a tall, long-jointed race, and without close pruning you can do little good with them, in a week or ten days after they are thus cut a host of young branches will spring up from all parts of the stems if the plants are old, and as soon as their leaves are about the size of a shilling is the proper time to remove them from the border to be potted, and the process is only a repetition of that to tall *Pelargoniums*. Their roots are shortened, so that at first potting they may be put into small pots, and kept close for a while to encourage new roots. This close forcing, which I have just condemned in the case of large plants with their full complement of leaves, roots, and flower buds, is highly beneficial when all these are either in a great measure wanting or in a crippled state. As soon as the first pots are full of roots the plants are repotted into larger ones, but at that late season only one size larger;

and the third shift, if not the second, should be their flowering pots; but that depends on the size of the plants, and the facility with which they will rest. They should be kept at green-house temperature close to the glass, and be regularly watered through the winter. Early in February let them be brought into a forcing pit, but a good hot kitchen window would answer the purpose, provided that the plants were wintered in a cold pit.

Frequent Repotting.—None of us have yet explained why it is that gardeners do not put such plants into their flowering pots at once, and so get rid of the trouble of frequent pottings, but here it is at last. If we were to put a *Pelargonium* into a full-sized pot after its roots were shortened, the young roots would all work out to the sides of the pot, and then coil round and round in the usual way, so that, whatever the size of the pot and ball might be, the roots are feeding in a great measure only on the outside of the ball; whereas, by the use of small pots and progressive shifts, the roots must be at work in all parts of the soil. Country readers will understand this better when I say that folding sheep on turnips is like planting in the small pots; and both the fold and the small pot are shifted as soon as their respective contents are appropriated. Yet the farmer's sheep and the gardener's plants would get on very well without folds or small pots, but it would be wasteful in both instances; yet, for all that, you see at lambing time the shepherd allows some of his pet ewes to roam over a whole turnip field at will, and the gardener does the same with pet plants by what he calls a *one-shift system*. Many plants, however, cannot stand such good feeding; they soon take a surfeit.

Forcing Bulbs.—The earliest of this class is the *Double Roman Narcissus*, and, very fortunately, it is the easiest to manage of the family. Any light soil will do to grow it in, and the usual way is to put three bulbs into a 6-inch pot, or two in a 5-inch pot, and a dozen of such bulbs may be had for three or four shillings. After potting, give a good watering and set the pots in some out-of-the-way place, where the heat of the sun cannot reach to stimulate the bulbs to make leaves before they have made roots, for that is the grand secret in forcing all kinds of bulbs. The pots should be at the least half filled with roots before you can see the bud of leaves, so to speak, in the centre of the bulbs. This *Double Roman Narcissus* is a famous one to root fast; therefore, as soon as you see the roots working down freely into the mould in the pot, you may take the pots to a kitchen window, if no better convenience is at hand. Indeed, I know of no better place in which to force these hardy bulbs than a good kitchen window facing the sun. If their leaves grow too fast or weakly, you can lift the bottom sash and turn them outside in the middle of the day, and there is always warm water ready for them. The air is also dry about them and in constant

motion; for the draught of the chimney sucks up the air continually, so that fresh air is constantly pouring into a good kitchen. Fresh air is just as useful to plants as it is to cooks and kitchen maids; and if ever you see plants or maids look pale and languid in a kitchen, depend on it the fault is more in the want of ventilation than in anything else.

The next earliest bulbs are the single and double *Van Thol Tulip*. The usual way to plant them is to put five of them in a 6-inch pot, or what used to be called 32's, and three into a 5-inch pot.

There are three more of the *Narcissus* family very good for forcing, but not nearly so early as the *Double Roman*; these are called *Soliel d'Or*, *Stadtlés General*, and *Grand Monarque*. These are the best; but there is hardly an end to the number of *Narcissi*, and they might all be grown in pots. Then of *Tulips*, besides the *Van Thol*, there are *Claremond*, *Golden Standard*, and *Royal Standard*, three of the best and second earliest with *Rex rubrorum*, *Marriage de ma Fille*, and *Turnsol*; these of the later sorts are very good for forcing. There are scores of other sorts, I dare say, just as good; but the above are the cream of all that I have tried myself, and I recollect having tried 42 sorts one year. There is a little yellow *Tulip* with a drooping flower, called the *Florentine Tulip*, and some people are very fond of it for forcing, as it is rather sweet.

The double and single *Jonquils* are also easily forced, and all the *Hyaacinths* will force, either in soil, moss, or water. It is true that the dealers recommend such-and-such sorts as being best for either way, but I could never make out any difference in any of them. If the bulbs are strong and healthy, and the roots get well forward before the leaves begin to grow, I believe any *Hyaacinth* will do well enough either in water, moss, or in soil; but I prefer moss, as the least liable to get out of order. Water is the most damaging to the bulbs, and soil may get too dry, or too damp, or mouldy, or the drainage may get stopped, and many other unlooked-for difficulties besides may occur to it, but moss is free from such impediments. Like a sponge, it holds enough water and no more, the roots run through it in all directions, and at last crowd at the bottom of the pot where the moss is beginning to rot, and no doubt they feed on it in that state. The different bulb-growers in Holland give different names to their seedling bulbs, although they may be the same variety; this is often unavoidable, but it is very puzzling when you come to make a selection. *D. Beaton. Cottage Gardener.*

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MANNA—MIRACULOUS FALL OF FOOD FROM HEAVEN.—Two months ago a report was current in Erzeroom that a miraculous fall of an edible substance had occurred near Byzid; but as the simplest facts are often greatly distorted and exaggerated in this country, and the most unblushing falsehoods circulated, in connection with anything

of unusual occurrence, the European residents here were not inclined to listen credulously to the accounts of this "wonderful fall of bread from heaven." The report, however, instead of being soon forgotten, gained daily more ground; specimens of the substance were brought hither, and travellers from Byazid bore testimony to the fact of several showers of these lichens having taken place. Finding that there was some foundation for this phenomenon, I thought that the matter was deserving of investigation, and that you would be interested in knowing it. I therefore applied to Dr. Heinig, the sanitary physician at Byazid (the only European residing there,) to furnish me with information, which I elicited by means of a series of questions. It is the result of these inquiries which I now have the pleasure of submitting to your notice.

About the 18th or 20th April last, at a period when there had been, for a whole fortnight, very rainy weather, with strong winds from the S.E. and E.S.E., the attention of the shepherds and villagers frequenting the country near Byazid was attracted by the sudden appearance, in several localities, of a species of lichen scattered in considerable quantities over certain tracts, measuring from five to ten miles each in circumference. Dr. Heinig describes two of these spots as follows: One is situated three miles east of Byazid, behind a range of rocky mountains stretching from the north, gradually towards the south-east. The other is five miles to the south of Byazid, near a similar range of rocks, running in the above-named direction.

It is remarkable that no one had ever before observed these lichens in the neighborhood, not even the shepherds, who often pasture their flocks on the crags and in almost inaccessible places; and Dr. Heinig, who has been on Mount Ararat (which is close to Byazid,) and who appears to have a taste for rambling over mountains, says he has never met with any. What seems to confirm the assertion that these products were not known previous to their unaccountable appearance is, that last year the crops were greatly injured by locusts, and a famine threatened; and had the substance been known to exist anywhere in the vicinity, it would most assuredly have been eagerly sought after and collected last autumn, when the price of wheat had risen to more than double its usual value. A similar phenomenon is said to have occurred at Byazid some years ago, when it is probable that the edible quality of these lichens became known to the natives; unless showers took place previous to that period, which I have not been able to ascertain. Supposing the lichens to have been blown off some adjoining inaccessible places, and in such great quantities, too, how is the rarity of the occurrence accounted for? and how is it that they covered such large tracts of country?

No proof has been adduced of any one having seen the fungi fall; but as the first intelligence

was brought by villagers who, early one morning, had observed the lichens strewed over a tract of ground where they had not observed any on the evening before, it is probable that the showers must have taken place during the night. In some localities, the one or the other kind of lichen alone was found; in others, the two species mixed. On the 19th June, another quantity of lichen was discovered, and as the spot was a well-frequented one, it seems likely that the fall had occurred only a few days previously.

From all accounts, the quantities collected have been very great. Dr. Heinig says that a person could collect at the rate of $1\frac{1}{2}$ lb. in an hour, which, considering the lightness of the product, is a tolerable quantity. The substance is ground up with wheat and made into bread, or eaten simply in its raw natural state. *Erzeroom, July 2, 1849.* [Our correspondent has favored us with specimens of these productions, which we shall take an early opportunity of figuring and reporting on.] *Lindley's Chronicle.*

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ROOT PRUNING.—In our last we adverted to the general policy of root pruning, and promised details adapted to the varied circumstances under which the fruit cultivator is placed, from the suburban town gardener, with his single pole of ground, unto the proprietor of the noble demesne, or even the commercial gardener. The latter class, indeed, so contrives matters in general that he avoids the necessity for much pruning of this kind; his mode of planting is not liable to mischances. In the first place, his soil is of a character that little preparation is necessary; his subsoil also is of a genial character; or, indeed, but for these two points, his profession would not prove by any means of a remunerative character.

It must be understood, therefore, that in writing for the amateur and the cottager, we write with the full impression that they labor under greater difficulties than the before-named parties; neither possessing, in the main, so good a situation, nor so much skill. Thus persuaded, then, we will proceed.

Root pruning, as at present practiced, may be thrown into two divisions, viz., periodical root pruning by system, and root pruning through necessity. The first has been called into notice by Mr. Rivers, of Sawbridgeworth, the eminent nurseryman, who, indeed, as we think, may be considered the originator of the system, or, at least, its greatest advocate. Of the other, root pruning through necessity, we must at once be egotistic enough to claim the merit—if merit it be—of keeping the subject warm, and of continually bringing it before the public for the last twenty years. The first kind we have never practiced, and can say little about; we, however, apprehend it is not generally needed by, or adapted to, the majority of our readers, who rather, it may be presumed, aim at off-hand plans less tedious in character.

By root pruning through necessity, then, we

merely mean the inducing a fruitful habit in fruit trees which are of too gross a character; such may arise from other causes than mere richness of soil. An apple, naturally of rampant growth, may, by being grafted on a stock of great powers (or, rather, of strong vital action and capacious sap vessels,) prove too gross even on soils of moderate fertility; whilst one of delicate habit, grafted on a weak or imperfect stock, may prove too weak even to make sufficient young shoots on the most powerful soils. The question of stocks for grafting is a very broad one, and too broad and too digressive in character to discuss now: it will receive attention in due time. To proceed: the same remarks apply to all other fruits, and, after all that has been said, written, or practiced, we are persuaded that these things are as yet in their infancy. There is, perhaps, more room for real progress in fruit culture than in any other branch of gardening; and it is to be anticipated (according to the common order of things) that the writer of the fruit article in *THE COTTAGE GARDENER* of half a century hence will smile heartily at our present lucubrations. So be it; we are but links in a chain of which that very learned personage above alluded to will, no doubt, consider himself as the terminating one.

As preliminary remarks, it may be observed that it is not very convenient to the classes to whom we offer advice to take up and replant a select lot of fruit trees which have been planted some four or five years, and which, instead of producing the owner abundance of fruit, have produced nothing but twigs. Cases like this, therefore, call for a plan which will cause but a small amount of labor, and, at the same time, assuredly give confidence that immediate bearing shall be the result: such, then, is root pruning.

We must now take into consideration the different circumstances under which we find fruit trees; for it is not expedient to apply the same mode to all. The modification of the system is not so much dependent on kind as on circumstance. Those trees which are growing on marginal borders, and which frequently are connected with flower culture, cannot be reached in the excavating process with equal ease on every side. Supposing, however, the flowers, or it may be vegetables, to stand in a line parallel with the walk or line of trees, the roots may be at least reached on two sides—those, we mean, at right angles with the walk, or general line of fruit trees. Here, then, they may be attacked, and our practice has always been to excavate a trench as deep as we can discover the least trace of a fibre: indeed, we generally go deeper (more especially if we think the tree possesses tap roots,) for whilst the trench is open it is comparatively easy to search by degrees beneath the very bole of the tree, and to cut away all those which have penetrated into ungenial soil. We do not lay so much stress on a *precise depth* for the roots to ramble, as on the character of the subsoil; al-

though we do think that wherever *ripening of the wood* becomes a matter of importance, that from half a yard to two feet in depth of a sound soil is better by far than any greater depth.

Tap roots should by all means be removed; but let it be understood that, for the removal of such powerful agents in obtaining food for the tree, an equivalent in degree must be provided. We name this, by the way, in order to prepare the minds of those who are merely in the hornbook of gardening, to expect that such severe operations cannot be practiced with impunity; in fact, that something more than a merely mechanical meddling will be necessary; a little of what is termed "mind" must both precede and follow the operation.

We will suppose, then, a trench or cutting excavated to the depth alluded to, and of a spade's width; every root, of course, in the line of trench cut away: these are severe measures; but fear not—such are necessary at times as well in the vegetable as the animal kingdom. After thus proceeding, a fork or some pointed tool should be used to dislodge a little soil from the surface of the cutting on the side next the tree, in order that the mangled points may be pruned back. This becomes expedient in all cases of root mutilation by blunt tools, because no one can tell but that a gangrenous character may be superinduced, especially in roots of some size (and, of course, age,) such being slow in healing in proportion to their age. Let every point be pruned back with a sharp knife an inch or two, cutting, where possible, back to where a rootlet or bunch of rootlets branch from the root in question.

When the case of grossness is excessive, we have sometimes made a practice of leaving the trench or excavation empty for many weeks; indeed, in the case of strong or adhesive soil, we have at times left it open until May or June, or, in other words, until the drouth of the spring has penetrated the mass. The practice, however, is an unsightly one, and, as there is no *absolute* necessity for it, we lay no particular stress on this proceeding.

In filling up the excavation, advantage should at all times be taken of introducing maiden or fresh soil; and, whenever such materials can be commanded, we advise using rough turfy soil of a loamy or sound character. *Sound* is, indeed, a somewhat indefinite term, and we dare not digress so far here as to enter into a definition of it. We intend shortly to enter into the question of loams and other soils, seizing the period for that purpose when mere calendarial routine is at its lowest point. The economical improvement of the staple of soils is a question affecting, more or less, most of our readers. Much has been written about manures, but little about mechanical texture, the very key-stone of the arch.

If loamy soil cannot be obtained, it is easy to exchange the excavated soil for any fresh ordinary garden soil at hand; and, indeed, the mere kitch-

en-vegetable bed adjoining, if not too rich in manures, may be substituted. Whilst speaking of manures, we may observe that none of any kind may be introduced amongst the soil in filling the excavation: some persons recommend and practice it; we, however, do not like "blowing hot and cold;" we consider the process inconsistent, especially since any amount of vigor may be imparted by surface dressings or by liquid manure.

In concluding this paper, we may remark that it is not material that *all* the sides of a tree should be root pruned equally: either one, two, three, or the whole may be dealt with accordingly as they can be got at. Nevertheless, the smaller the number of sides pruned the more severe the operation must be. We, of course, prefer cutting all round equally (not but that the cutting of any one root on any given side, equally or nearly so, affects

the whole system of the tree;) but cutting all round is a more satisfactory mode, as throwing the volume of roots into a more determinate form, and, of course, placing them henceforth under a more definite control. Another argument may be adduced in its favor. In cutting all round there is less occasion for such very severe mutilations; for, be it understood, that although root pruning is of great use under circumstances of over-luxuriance, we must still class it as a necessary evil.

In a subsequent paper we will advert to the different kinds of fruit trees—for all must not be cut alike—and giving rules for cutting as to distance; such being regulated by the amount of over-luxuriance, the age of the tree, the character of the soil, &c., all of which exercise important influences. *R. Errington. Cottage Gardener.*

DOMESTIC NOTICES.

NEW SEEDLING FRUITS.—*Dear Sir:* Notwithstanding the general opinion among intelligent pomologists, that the varieties of fruits now under cultivation are far too numerous, and the consequent desire among them to expunge from the catalogues, and drive from cultivation such as are invaluable; and too, notwithstanding, nearly every pomological and horticultural society, as well as most state agricultural societies, have adopted pomological rules,—concocted mainly for the guidance of committees, and individuals, as to what should be prerequisite when judging of new seedling varieties, before they are to be deemed worthy of name or recommendation; still, there is scarcely a number of any horticultural journal published, or the proceedings of a horticultural society printed, in which we do not see *new* seedling varieties recommended to cultivators. Can it be that valuable fruits increase so much faster, in this progressive age, than in times gone by? Or, may it not be much more probable that editors and committees—fearing to wound the vanity of originators, or discoverers, of seedlings—are not sufficiently firm in following, rigidly and strictly, the admirable codes of rules, which, if adhered to, are so well calculated to protect planters and growers from imposition and loss? I hope I may be pardoned for interference in this matter; for I feel it very necessary that great circumspection be exercised, and wish to call the attention of those interested to the subject. Yours very truly, *Herman Wendell. Albany, Oct. 9, 1849.*

[Dr. WENDELL is quite right in advising more caution in bringing forward seedling fruits. We believe, indeed, that more new seedlings of excellence will be produced in this country in the next twenty years, than have ever been originated before in a century, in any part of the world; but

unless fruit committees do their duty, and winnow the grain *fearlessly* from the chaff, our catalogues will be burdened with new sorts, of indifferent quality, faster than pomological conventions can reject the old ones.

If all persons to whom a new variety is submitted will stand by the "Pomological Rules," and adopt nothing that is not at least equal, if not superior, to similar sorts already known, a very large part of the candidates will be found unable to pass the necessary examination, and will therefore have to go without anything more than a local name and reputation. *Ed.]*

MOVING LARGE EVERGREENS.—*Dear Sir:* A very fine fir tree, located in "the front yard," measuring about thirty feet in height, nine inches through one foot from the ground, and perhaps eighteen years old, is either to be chopped down and consigned to "the wood pile," by a close neighbor of mine, or, if saved, saved by "foreign interference."

To prevent such destruction as is threatened of life and limb, I propose, on certain conditions, its removal and salvation.

Now, my obliging Lexicon—if I may so speak—supposing said tree hitherto to have been growing upon a mound of earth eighteen inches high by five feet in diameter, (as this has been,) and raised that much above the surface of the earth around, should you in transplanting recommend continuing it upon the mound, or placing it upon a level or nearly so, as in re-setting other trees?

Or, rather, my question is, (for I *prefer* the tree *not* upon a mound,) would that tree be as likely to live, all other things in moving being equal, placed upon a level, according to your rules of transplanting, as it would if placed upon a mound

similar to that to which it has become accustomed by early training?

If it be removed properly—say with a ton of earth, in the winter season, and great care exercised both before and after transplanting, by having soil, compost, “mulching stuff,” and, lastly, rocks to keep it in position, and everything right and in order—what think you, shall I “have a rough time of it,” or not, in endeavoring to make it “live and let live?”

Also, what compost should you recommend, if any? Respectfully your humble servant, *Milton J. Stone. Boston, September 25, 1849.*

[The tree will thrive *better* for being placed on a level, or, rather, very slightly raised above the general level.

If it is moved in winter, *skilfully*, with a large ball of earth, it will suffer no more than a plant taken from a pot.

The best compost for it will be made by mixing a cart load of the ashes of bituminous coal, and a barrow full of well decomposed manure with the soil. *Ed.]*

CINCINNATI HORTICULTURAL SOCIETY.—*Dear Sir:* The annual fall exhibition of our horticultural society is just brought to a close. A full report of the articles exhibited, with the premiums awarded, will speedily be laid before the public from the appropriate committees. In the meantime, I wish to present a brief description of the hall on this occasion, with the discouragements under which the show was got up, and the hopeful encouragement it presents for future progress in this delightful field. My only regret is, that you were not present to do justice to the subject, and the laudable efforts of individuals throughout the whole exhibition.

The late frosts of last spring seemed to cut off the hopes of the fruit culturist, in a general sweep of the embryo fruit, excepting here and there, in favorite spots; even the apples by no means escaped, or are so good as usual. Next, we were visited by that terrible scourge, the cholera, lingering through the summer with its desolating effects, carrying dismay with it, which left but little time or inclination to think of such *jubilees*, or the preparations for them. Then set in a drouth, so common in this region at this season of the year, of some three or four weeks' duration, which materially crippled the late bloom of Roses, Dahlias, &c. Notwithstanding these discouragements, our commercial and amateur horticulturists have persevered, with a zeal that has called forth the universal praise and admiration of our citizens, who have corresponded to their skill and exertions in a most liberal support, by crowding the hall during the exhibition. This has enabled the society to realise the means to meet its expenses, and pay the liberal premiums awarded to the successful competitors, and is felt to be the sure index of more successful efforts next year. All contributed to the greatest harmony and good will throughout the exhibition, which opened on

the 26th, and closed on the evening of the 29th ult. Owing to the causes for doubt, above alluded to, as hanging over the success of the exhibition, the society hesitated in extending invitations to kindred societies and individuals abroad to attend it, least they should be called to participate in the mortification of a failure, which seemed so evident to many.

The best results are to be looked for from this success, under such unfavorable circumstances; as it has shown the ability and capacity of our horticulturists, and created in them a confidence which has never before been *unitedly felt*. From it, I doubt not, we shall date a new *era* in the progress of our operations. It is the first beginning of a liberal scale of premiums; this amount will be largely increased for next year, with a full hope that we shall be enabled to add to it from year to year, until we can justly feel that we may claim rank with the elder and more experienced sister associations of our country. This, I hope, sir, you will not feel an improper, or presumptuous, ambitious aspiration, growing up where *sixty years* have scarcely elapsed since the *red man of the unbroken forest maintained undisputed dominion*.

The entrance to the hall was through a densely grouped forest of tall growing cedars, with other evergreens on either side, flanked and interspersed with a variety of flowering and lesser growing plants, at the terminus of which an *arch*, covered with various climbing plants, opened to the view the hall, sixty feet wide by one hundred and fifteen long, and twenty-five high, with its rich decorations. Directly in front of the entrance was a long table, six feet wide, stretching down the hall; the middle of which, lengthwise, was appropriated to various beautiful rural designs, stands of bouquets, &c., interspersed with pot plants. Among them, a moss cottage, with grounds laid off, with winding walks, planted with trees, shrubbery and flowering plants, and enclosed with an evergreen hedge, arranged by Miss SMITH and Miss ALLAN,—reflecting some credit on their juvenile taste and ingenuity.

A beautiful moss harp, by Mrs. WM. RESORR; this was very tastefully decorated with a variety of flowers, and was much admired.

A beautiful miniature temple of moss, and a miniature flower stand of the same material, richly supplied with handsomely arranged bouquets, of appropriate size, by two young sons of S. S. JACKSON.

A very large dish of almost every variety of the fruits of the season, with nuts, &c., tastefully arranged by Mr. TULEY, gardener to N. LONGWORTH, Esq.

Two moss baskets, ingeniously arranged with flowers; one by Miss D. McWAY, and the other by Miss E. BROOKS.

The side appropriated to fruits, lesser bouquets, specimen flowers, &c., for much of its attractive richness, was indebted to Mrs. WAND, R. P. RE

SORR, Mrs. R. BUCHANAN, Mr. SAYERS and Mr. FERRE, —for their fine collections of Roses, Dahlias, &c.; the whole forming a most beautiful display, rising from the sides to the centre.

Beyond the end of this table was situated the chaste and tasty *Floral Cottage*, by J. HOFFNER, Esq., which excited more general attention than any other object in the hall. It was a bower or temple, some six feet square, and eight or nine feet high, covered with a variety of running plants in full bloom, and otherwise decorated, and surrounded with marble statuary, vases, &c.; of the former, placed at each corner, representing the four seasons, of spring, summer, fall and winter, with two snow white lambs—one on either side of the entrance. The interior decorations consisted of seats, with a centre table, appropriated to bouquets, surrounding a glass globe with gold fish, which seemed to participate in the joyous occasion,—with a moss carpet, and two beautiful little Misses, dressed in white, whose office was to sell the bouquets to the admiring multitude. From the ceiling was suspended a plant of *Stanhopea liquidra*, of the family of Orchids, in full bloom. This remarkable plant attracted much attention. Mr. HOFFNER is, I believe, the first who introduced and bloomed it in the west. For the ingenuity of this structure, Mr. HOFFNER and his gardener, Mr. ROSS, deserve much credit. The vines were all grown and trained to it in his garden, and thus brought to the hall in a growing condition,—throwing out a continued succession of bloom.

Immediately in the rear of this, and covering the farther end of the hall, was appropriated to extensive groups of a great variety of valuable green-house plants, many of very large size and rare, mostly belonging to Mr. HOFFNER. These were so arranged as to raise one above the other, with walks between, which gave the groups a most imposing and interesting appearance. From these groups rose two columns, at equal distances from the sides of the hall, covered with running vines, and festooned from column to column, and so to the side walls, with wreaths of flowers and evergreens. This also extended along the centre of the hall, from chandelier to chandelier.

The entire extent of the hall, on either side, between the groups, was covered with tables five feet wide. That on the north, to various rural designs; among which was a large cornucopia, ingeniously prepared by the Misses ORANGE, pouring out its ample supply of everything pleasant to the eye and good for the taste. To plants, bouquets, specimen flowers, among which were splendid Dahlias, Roses, &c., mostly from Messrs. JACKSON, HEAVER and RESORR.

The table on the south was devoted to vegetables, plants, &c.; of the former, there were very fair specimens, though it is much to be regretted that so few of our vegetable gardeners seem to feel interested in these exhibitions. A much better display could and should have been made.

The plants on this table, many of which were large and fine, were mostly from the garden of N. LONGWORTH, Esq.

The promenade, formed between the centre table and those on the sides, was partly occupied by rural structures. That on the south to a floral temple, by Mrs. HEAVER; this was a structure on a square base, six feet over, and eighteen feet high, with turrets on each corner of the main body, with one rising from the centre above the rest. The whole was covered with moss, and beautifully ornamented with various flowers. The interior arrangements were very chaste; the carpeting was mostly of Dahlias of various colours, tastefully arranged, and, when brilliantly lit up, produced a fine effect. The only objectionable feature was the rich papering of the walls; this should have been of a material more in harmony with the design of horticulture; although, however, it reflected much credit on the good taste and ingenuity of Mrs. HEAVER, which was fully awarded to her by the universal approbation of the visitors.

East of this structure, in the same promenade, was placed a most beautiful floral basket, some five feet over and four high, composed of native vines and flowers, with a splendid pyramidal bouquet of roses occupying the centre. This was most tastefully arranged by the inmates of the Scarlet Oaks, the residence of Dr. WARDER.

In the north promenade rose, in majestic style, a splendid Gothic monument, by S. S. JACKSON. This rested on a base five feet over, and rising some twenty-four, eight square, formed in regular divisions or offsets, one rising above the other, and terminating in a spire. This was also covered with moss, and tastefully decorated with various coloured Dahlias and other flowers, forming a most beautiful and well proportioned structure, which fully sustained the good taste for which Mr. JACKSON is noted in his floral arrangements; this his numerous admirers, as all others, did not fail to express on the occasion.

Beyond this, in the same range, stood a tasteful moss vase, four feet high, and two over, with a well proportioned bouquet, of many varieties of flowers, handsomely arranged, three feet high, resting in the same, by Mrs. D. McAVOX, of the Garden of Eden; to whose good taste and liberal supply of beautifully arranged bouquets and garlands, the hall was much indebted for its richness in that line.

It will not be expected that I should, in such an article, enumerate all the contributors, or those who otherwise extended valuable aid in the arrangement and decorations. For this, I must refer you to the official report; a copy of which I will send you as soon as published.

The supply of peaches was very limited, but the specimens were remarkably fine. Of pears and grapes, there were but few. Of apples, there was a better supply, but by no means so abundant or fine as on former occasions. The display of

fruit was, however, better than was expected, under the circumstances.

This exhibition, you will probably say, from the small supply of fruits and vegetables, should have been denominated a *Floral Festival*. To this, you have my hearty consent. And if you think my narrative of it of sufficient interest to your readers to secure it a place in your excellent magazine, I shall feel myself highly flattered. Very respectfully yours, *A. H. Ernst. Cincinnati, Spring Garden, Oct. 5, 1849.*

DESTRUCTION OF THE CURCULIO.—This subject has received no inconsiderable share of the attention of your correspondents. While one party recommends a layer of manure from the barnyard, to be spread around the trees, another thinks his end attained by allowing the swinish family a roving commission in his plum orchard, and a third party considers paving the only grand panacea; a fourth supposes he has found the great desideratum in guano and iron filings. Still another, with a significant shake of the head, will tell you that, after having tasked his ingenuity to the utmost; he has given up the case as hopeless. Doubtless, every cultivator of the plum is greatly indebted to those who have been at the trouble and expense of these experiments; and had their success been equal to their zeal, the curculio by this time would have been numbered among the things that were.

Still, it would seem that the effects of these remedies are, at the best, temporary and uncertain; and something more permanently effectual is yet wanting.

What I particularly wish to notice at present is, that in making such experiments, it is necessary that they be of a nature, and conducted in a manner, as not to be prejudicial to the health of the tree.

In this respect, many of the methods tried and promulgated, are certainly objectionable; paving, for instance, cannot be looked upon in any other light, since practical cultivators are well aware that the mainspring of their success lies in having the soil in such a condition, that the ameliorating influence of the atmosphere may have free access to it. If the soil was merely a simple substance, supplying from its bulk the only food which plants require, it would perhaps be of little consequence how it was situated; but when we reflect that it chiefly acts as a laboratory, so to speak, where an essential part of their food is prepared, and that depending entirely upon the conditions in which it is placed, it is obvious that particular attention to this point is necessary. We know that by having the soil exposed to the atmosphere, the principal agents in the growth of plants are induced and promoted; by having it of an open texture, the roots are enabled to extend their spongioles and the water holding nutritive matters in solution, can convey them more equally and extensively to the roots; by frequently stirring up the surface, we admit a large amount of

atmospheric air,—thus keeping up an ample and constant supply of those electro-chemical agencies on which the growth of plants mainly depend.

These, then, being the most favorable conditions in which the soil can be placed for the healthy existence of vegetation, it follows, that surface paving may be looked upon as opposed to successful cultivation.

With regard to the guano cure, the stimulating effects of this manure upon vegetation are sufficiently established; it is no less a fact that by its means, in many instances, insects are extirpated. Indeed, it is rather offensive to the olfactory organs of animals in general, and possibly the curculio tribe may have objections to its coming

“ ’Tween the wind and their nobility.”

What part the iron filings play in the process, is not so apparent.

In applying the guano, it is recommended to “remove two or three inches of the surface soil;” at the same time, it must not “come in contact with the roots of the tree.” Here the questions naturally arise,—what injurious effects are to be anticipated by the action of guano on the roots? Or, if injurious, how is it to be prevented? Guano is of easy solubility, and is quickly conveyed to the roots. Moreover, the roots are, or *should be*, within a few inches of the surface; so if harm was likely to accrue, removing the soil would only be the means of accelerating it.

The science of horticulture has attractions of the highest order; and, like other branches of science, a large amount of speculative knowledge concerning it may be derived by reading and studying horticultural and botanical works. In the entire absence of any practical experience on the subject, acute and philosophical views, bearing upon it, may be offered, and theories propounded, plausible enough as such, at the same time rather absurd when put in practice. Those individuals who have acquired a stock of information of this description, and can afford to indulge their taste in practical horticulture, are the most of all likely to commit mistakes. It has been said, that “a little learning is a dangerous thing;” and in this case, if not dangerous, it is frequently found to be a very expensive thing. Examples illustrative of this are numerous.

There is a very important point in the cultivation of the soil, which I am sorry to say is seldom resorted to. I mean that of turning it over in autumn, for the purpose of being pulverised by the winter frosts. I allude to this here, because it is also one of the most effectual means for the destruction of insects and their larvæ, apart from its highly beneficial effects on the soil. Turning and exposing the soil to the frost, will go much farther towards ridding it of destructive insects than is generally supposed. Indeed, when a thorough and systematic course of cultivation, based on sound principles, is fairly and fully followed up, there is little need to resort to expedients, which

are frequently employed as a means of counterbalancing defective and unsuitable management.

In conclusion, for the benefit of the purses of those who intend to try the paving system, I would suggest that instead of using bricks, a thin layer of concrete be employed for this purpose. This is easily procured; a mixture of lime, coal ashes, sand, or earth of any description—the lime not to exceed one-fifth of the whole—well worked to a mortar, and laid down about a couple of inches in thickness, will form as effectual a barrier to the progress of the curculio as any system of paving with bricks; and the expense of it is next to nothing. Before laying it down, the ground must be made smooth and level, and be in a medium state with regard to moisture. In this condition it will remain for a long time.

When the curculio season is past, the concrete can be removed and applied as manure,—thus giving the roots the benefit of the atmosphere, to enable the tree to complete its growth, and form healthy, well ripened wood for a future crop.

A friend suggests the use of tin or zinc, instead of paving, fitting it closely round the stem of the tree, and extending it as far as necessary. I think the suggestion is good; as it could be removed when found to be no longer useful, and replaced when again requisite. If painted of a colour to harmonise with the soil or grass on which it may be placed, it would last for many years. *Wm. Saunders. New-Haven, Oct. 16, 1849.*

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WESTERN FRUITS.—Among the numerous notices of fine peaches in every section of the west, as well as in the columns of your valuable journal, I have sought in vain for mention of a splendid freestone peach, of high reputation about thirty years ago; I mean the Madeira Freestone. It is twenty-five years since I have seen the fruit; but from my recollection of it, there is nothing equal to it among those now in high repute. It was of very large size, very round and perfect in shape. Colour—a beautiful combination of yellow and red. Pulp—remarkably firm, but not tough, and of a delicate yellow tinge. Flavor—rich sub-acid, and highly scented. Stone—very small and smooth, separating very freely from the pulp. It was grown in Muskingum county, Ohio, side by side with the New-York Rareripe, Old Mixon, Red Cheek Malacoton, and various other of the finest kinds from Long-Island, and, as well as I now recollect, ripened later than any of those mentioned; but was greatly preferred to all others. If, in the long period mentioned, it has lost its old name, but still exists as rich and fragrant, under some other name, I should like much to be introduced to it under its new title; as I wish to renew my acquaintance.

The present season has been a very cold and backward one; but fruit generally, and the peach especially, has been very abundant—near St. Louis and Alton—of large size and fine flavor; but in this section, it is at least two weeks later than

usual, and rather too acid, especially all the earlier sorts. Yet, generally, with proper selections and culture, the peach succeeds well here, especially near the high banks of the Mississippi, along the lower rapids where it is seldom wholly destroyed by frosts. On the prairies, remote from the river, it is more uncertain. The wild plum grows in every thicket in this country, and this year has borne most abundantly; and although usually a small, poor, and too acid fruit, yet occasionally I have met with those that would compare favorably with the finest cultivated plum. I found a tree this year, growing in a garden where it had been allowed to stand when the garden was enclosed; the fruit was large, of a bright red and yellow; thin, tender skin, with sweet pulp; stone large, and inclined to adhere to the pulp; very fragrant when ripe,—so much so, as to scent the garden in which it grows. The tree has a free, open, thrifty head, and is represented to be a prolific bearer. I regard it as quite equal to anything of the plum kind that I have seen, and intend to propagate from it in the spring; but I fear the curculio will be fatal to it when brought into the vicinity of the domestic plum.

If you can give me information, through your journal, respecting the peach I have described, I shall be much gratified. Respectfully your ob't servant, *J. B. Mathews. Warsaw, Illinois, September 22, 1849.*

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ENGLISH PARKS.—Your criticising correspondent, at p. 145 of the Horticulturist for September, speaks of the parks of the English gentry as if they were so many pieces of waste land, useless for all purposes except mere ostentation and display. Now, with all due respect for your excellent correspondent, I must say that his prejudice has to all appearance, got the better of his knowledge. In short, he misrepresents Mr. COLMAN's excellent work in depicting the English as they are, and manifests total ignorance of what he is writing about. It is a notorious fact, that the private parks of the gentry are more fertile, and doubly more productive than any equal surface of land in the whole island. Productive of what? Of human food—and human labor, independent of the grandeur and beauty they give to the landscape. Where is the farm or field in the kingdom that produces an equal amount of these two grand requisites of society, 'food and labor,' as these private parks? I ask "JEFFREYS" to point out any park in that kingdom, including trees and all—those monuments of time, coeval with the growth of centuries, that is not twice as productive as any other portion of the owner's estate. Look for instance, at Windsor Park, embracing a surface of many square miles, and where stands, perhaps, the finest avenue of trees in the world; a lover of landscape beauty would not grudge to cross the Atlantic to look at it. Now, according to the phraseology of "JEFFREYS," one would suppose this beautiful park just so much waste

land—a perfect sacrifice to royal extravagance and ostentation. Yet of all that fertile park at Windsor castle, which feeds double the quantity of stock of any park, arable or otherwise, that I have seen in *New or Old* England, there is but a single acre or so, appropriated to a terrace flower-garden opposite the private apartments of the Royal family. There you may see the cattle browsing close to the castle gates. And there you may see the Queen and her husband walking among them with far less peevish delicacy or false refinement, than most of the American ladies would do. Even the pleasure parks of London produce their quantum of human food in the shape of beef and mutton, since they are all kept short by the grazing of sheep or cows. The English gentry know the use of money, and the *want* of it too well to allow their parks to be unproductive for mere ostentation and display.

The people of England are proud, and justly too, of their parks. They are the distinguishing features of an English landscape, and present to the lover of nature a combination of utility and beauty which no other country in the world can supply, and which the ablest writers and men of taste have been laboring for years past to introduce into this country. Contrast one of these old country mansions with those cited in the editor's excellent leading article of the September Horticulturist—place them in juxtaposition, and I ask—*which would you imitate and which condemn?* I repeat that these parks, so disparaged by your correspondent, are the glory of the country; and barbarous indeed would be the taste that could ruthlessly destroy them.

A critic should be *just* as well as generous; but especially ought he to be impartial and unprejudiced. Some people cannot write the name of England without spitting fire at it. But were the sentiments consistent, the language might be excused.

As I have ventured to quiz, probably some great incog—I hope he will receive my remarks in the friendly spirit in which I write them, and thank me for my candor. *R. B. Leuchars. New Haven, Ct., Sept., 1849.*

.....

PLANTING DWARF PEARS.—*Dear Sir:* In planting out dwarf pear trees—where there is much length of stock between the fibrous roots and the graft, I have often been perplexed to decide how deep to plant it. Mr. Rivers' advice relieved me, and his plan at first seemed very judicious. But I have been in doubt since, whether it was desirable to proceed on that plan in *this country*, lest the tree should suffer from drouth. What do you think? The roots are encouraged to spread only on the surface; or, in fact, in a mound above the surface. The lower roots are *discouraged*. The upper roots have a highly manured soil, which it seems to me would be particularly trying to them in July.

Well, if its objectionable, what plan shall we use? Put it down in all cases—the graft to the

surface? Then, shall we encourage surface roots—as all the English and French writers advise? or shall we get depth of soil—and manure high and low—or which? Yours truly, *Smock. Hartford, Ct., Sept. 11, 1849.*

[Make your soil *deep* and rich, and the roots will take care of themselves. ED.]

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PAVING PLUM TREES.—*Mr. Downing:* Paving about plum trees to thwart the curculio, always appeared to me to be the sheerest nonsense. Whether they fly or not, its value is precisely the same. It presents no obstacle to wings; and certainly much facilitates progress on legs. Why won't gentlemen who are so fond of recommending it, try the same experiment with their cherry trees, to keep off the birds; or build bridges over their garden fences, to prevent the inroads of unruly boys; and enrich us with the record of their sagacity? If the curculio passes up the body of the tree, as is claimed to be "conceded," why not invest funds to the extent of a cent per tree in tar? A sum not so exorbitant but most plum-growers might be tempted to risk it; and the expedient would certainly be more embarrassing to footsteps than brick pavement. The true worth of a recommendation for the preservation of fruit, in addition to being effectual, is its capability of universal application. Paving, at \$3 per tree, is as generally impracticable, and would be as rarely adopted, as enclosing trees in glass houses. Its expensiveness and doubtful utility, at best, condemn it.

There is nothing known of the nature of the curculio opposed to the probability that, having wings, they fly, if necessary, to perpetuate their race; nor of the grub, that, having legs, they also have wit enough to convey themselves, after escaping from the fallen fruit, from where they can't burrow to where they can, though in passing over pavements they sometimes doubtless perish, like bigger worms over the deserts of Sahara. The sagacity of the curculio provides against this difficulty, where it is possible, by the selection of localities more favorable to the prosperity of the rising generation. *Hence, paved trees are shunned where others can be found.* Let all be paved, and all would suffer. I venture to predict that, unless Mr. SPALDING, of Lockport, has near neighbors, whose plum trees are not paved, every one of his own will hereafter be attacked. By cultivating two sets—one for himself, and another for the curculio—he has hitherto preserved his share; but by paving the whole, I am mistaken if he will not be the loser. Paving, on such terms, may by some be considered advisable; but I don't apprehend a scarcity of brick will grow out of it. *J. C. H. Syracuse, September 18, 1849.*

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PEAR BLIGHT IN TIMES PAST.—*Dear Sir:* I think your correspondent, in the September number, is wrong in attributing pear blight, &c., to modern improvements. Some 25 years ago, be.

fore railways or electric telegraphs were dreamed of, the blight prevailed so severely in this region that scarcely a bearing pear tree was left. One of our amateur cultivators was so discouraged, that to this day he says it is of no use to plant pear trees; the blight will kill them. Others, who had more faith, have planted pear trees, and have had fine crops of fruit to this day. The worst blight we have had this season, has been produced by the drouth in April and May, and again in the summer. In April, I planted carefully about 400 pear trees of my own raising; and perhaps 50 of them may survive the severe trial they have had.

In usual seasons, I should not have lost more than three or four per cent. One of our nursery-men has been very successful in raising pear stocks from seed, on a strong clay soil, in the following manner: Last November he made the ground very rich with rotted manure, then planted the seed in shallow drills, which he covered lightly with sand. This spring, they generally grew, and many are now nearly three feet high. Yours truly, *Charles H. Tomlinson. Schenectady, September 12, 1849.*

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RAISING CHANCE SEEDLINGS.—It may be interesting to those who depend upon raising fine fruit from sowing the stone or kernel, to know what proportion the experience of others has proved that the good will bear to the bad or indifferent. Some years ago, I sowed about two barrels of peach pits, from which were produced upwards of 3500 plants. Of these, perhaps 800 were inoculated, and the remainder suffered to grow up and bear fruit. This they all did, I may say, without exception, during the last season. The great majority of the peaches were white—many with a strong purplish tinge; but few were yellow, and amongst the whole of these seedlings, I found but a *single* peach that was at all worth attention. If, in another year, it improves in quality, I may propagate from it, as it is a large, green, and very late fruit. *J. W. K.*

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NEW-BEDFORD HORT. SOCIETY.—This energetic society, we perceive, had a very successful exhibition on the 27th and 28th of September. The show of pears was very fine,—Mr. CRAPO showing 44 varieties, Mr. ARNOLD 23 varieties, and Mrs. MORGAN 20 varieties. We extract the following from the report of HENRY H. CRAPO, chairman of the committee on fruits:

"They have much pleasure, in the outset of their report, in being able to state, that the display of fruits on the occasion was excellent, and far exceeded their most sanguine expectations.

"The show of pears, the standard fruit of New-Bedford, both in appearance and extent, as well as in size and beauty, exceeded that of any former exhibition, and gave ample evidence that our soil and climate are well adapted to the successful growth of this most luscious and valuable fruit.

Some of the dishes were indeed splendid, and the committee very much doubt if they have often been excelled by any exhibition. A very large dish of the Frederick de Wurtemberg, from Mrs. Hannah Bates, the specimens of which were very large and handsome; and also a large dish of the White Doyenne, from Wm. T. Cook, of great size and exceeding fairness and beauty, especially merit this commendation. Dishes of the Flemish Beauty, from J. H. Clifford—of the Beurre Diel, Vicar of Winkfield and Glout Morceau, from Joseph Clarke—of the Passe Colmar, from Wm. Swift—of the Bartlett, Glout Morceau, Beurre Bosc and Seckel, from Jas. Arnold—of the Louise Bonne de Jersey and Napoleon, from Henry H. Crapo—of the Seckel, from Wm. T. Russell—of the Glout Morceau, from John M. Howland, of Fairhaven—of the Duchess de Angouleme, from Henry Deane—of the Seckel, from Wm. Rotch, Jr.—of the Bartlett, from Dennis Wood—of the Duchess de Angouleme, from Joshua Richmond—of the Wilbur, from E. Gardner—of the Napoleon, from Wm. Rotch, and of the Capsheaf, from John Akin, merit especial notice for the great size and fine handsome appearance of the specimens, even where all were fine.

"Of apples, the show was limited, the season having been very unfavorable to their growth. The committee would here express the hope that the culture of this truly valuable fruit may be revived in our vicinity, and again flourish as in former years—believing as they do that all which is essential to success in this department of fruit culture, is merely for the zealous and devoted pomologist to take the matter seriously in hand. There were however some very fine specimens and worthy of special notice, among which were several varieties from Wm. Almys, of Dartmouth; a striped apple, very large and handsome, from Levi Jenney, Jr., of Fairhaven; and Hubbardston Nonsuch, and another variety without a name, from Samuel G. Hudson.

"The show of peaches and plums was also limited, although some very fine specimens of each were upon the tables. Some noble specimens of the quince were also conspicuous, and especially three dishes of the Orange quince, from Charles P. Sherman, the largest specimen of which weighed 18 ounces.

"Of grapes the show was very fair, both from the graperies and from open culture, and made a fine appearance, interspersed as they were among the other fruit, throughout the entire length of the tables. Of the Isabella, those exhibited by Henry Cannon were very large, both clusters and berries, and would perhaps be regarded as the best exhibited. Those from A. D. Richmond were also very fine, and, setting aside size, were perhaps fully equal to those exhibited by Mr. Cannon. Other dishes of this excellent variety of the grape, worthy of special notice, were from R. N. Swift, of Fairhaven—Charles W. Morgan, and R. R. Crocker."

BUDDING ROSES.—*Dear Sir:* On a recent visit to Newark, N. J., I was much gratified with a fine display of the Prince Albert Rose, growing on a strong climbing rose ten feet from the ground. The buds were inserted in the fall of 1847; these, the next season, formed vigorous shoots, and some flowers. In the spring of '49, they were shortened back, having stood the severe winter without protection; and at this time, they are a perfect show, having from fifteen to twenty finely formed flower buds on each.

Such climbing roses as the Boursault, may be made to bloom perpetually by inserting a number of buds of the China Roses; and when the different varieties are in bloom at the same time, they have a fine appearance. Some of the finest flowers of the *Souvenir de Malmaison* I ever saw were produced in this way; but they, unfortunately, will not stand the winter.

I have also practiced this method for propagating the finer Tea and Bourbon Roses, also perpetuals, for dwarf plants, by inserting a bud about an inch above the joint of the Boursault shoot, or any other smooth wooded variety that will strike freely; and in about ten days, or immediately after the bud has taken, cut off the shoot at the joint, and strike in the usual manner. Very respectfully yours, &c., *Geo. Kidd. Red Hook, Dutchess county, N. Y., Oct. 12, 1849.*

WINTERING PLANTS IN CELLARS.—In your December number of last vol., in answer to a correspondent, (W. R., of Milwaukie,) you mention Oranges, Lemons, Pomegranates, and Hydrangeas, as exotics, which may be preserved during winter in a cellar. Allow me to add to the number, by suggesting the following varieties roses and bulbs in pots: *Rubus rosafolius*, *Lagerstroemia*, *Erythrina*, *Oleanders*, *Olea fragrans*, *Magnolia fuscata*, and other species, *Figs*, *Laurus nobilis* (the Bay,) *Yucca gloriosa*, *Hibiscus sinensis*, half hardy *Rhododendrons*, Chinese *Azaleas*, *Geraniums*, (the roots taken out of the pots,) wall flowers, stocks, *Fuchsias*, &c. &c. *J. W. K.*

THE CURCULIO.—A correspondent of yours, for a single year, tried paving to save his plums from the curculio, and failed; and therefore concludes paving is not a preventive. He is confirmed in this opinion, because "the insect has wings; and presumes, as the pavement insured a crop with Mr. ALLEN, that his plums belonged to the Dutch family." It appears to me singular, that persons will, from a single year's experience, undertake to express an opinion. I have for 22 years had about 20 plum trees surrounded by a brick pavement, and have never failed to have a crop of fruit from them. A few of the fruit, in some varieties, are occasionally stung by the curculio. In my adjoining grounds, I have as many trees of the same varieties; and 2 years out of the 25, have had a fair crop of fruit. The other 23 years the curculio left not a single plum. The

safety of the fruit in a pavement does not arise from no curculio being bred in the ground. If a person does not raise them, his neighbors will give him a liberal supply. As an experiment, I planted a small plum tree, 1000 feet from any plum tree. The first year of its bearing, every plum was stung by the curculio, and for years after. The safety of a pavement arises from the instinct of the insect. It will rarely deposit its egg over a pavement; as the young, when they fall from the tree, cannot secure winter quarters in the earth. The mother feels too strong an interest in her children to subject them to such a fate. *N. Longworth. Cincinnati, Ohio, September, 1849.*

FEEDING INSECTIVOROUS BIRDS.—I find the following in Liegel's Introduction to his work on German Fruits:

"Birds, particularly Starlings and Wrens, are the most effectual insect destroyers. Many fruit-growers set up boxes and other convenient receptacles for them to build in. In order to induce them to make their homes in our gardens, and not to forsake us in winter, we have practiced feeding the wrens throughout the year, but more especially during inclement seasons, with hemp seed, or with sunflower seed, of which they are remarkably fond; and we make a further provision, by hanging up for them on a wire, pieces of *pork*, or the *fat of boiled meat*." Yours, *J. W. Knevels. Fishkill Landing, N. Y.*

VERBENAS OUT OF DOORS.—I have always been in the habit of keeping my *Verbenas* in the house; but they were very apt to die, and if they did not they were very unsightly objects all winter. Last fall a friend told me if I would take them up, and put them in a hot-bed frame, that they would live very well. But I thought I would try if I could not do it without taking them up; so I just took an old frame and set it over a fine scarlet one, and took up the rest and planted them in the same frame. I did not even bank the earth up round it; and in the spring the scarlet one looked beautiful; but out of all those I took up, only one or two lived. If it is worth mentioning in the *Horticulturist*, it is quite at your service. *A Constant Reader. Washington, D. C.*

SUPPORTS FOR CLIMBING PLANTS.—I have used for two years past, supports for delicate climbing plants, which I have found so convenient that I presume many of your readers, to whom they may be new, would be glad to adopt the same plan. I believe the idea originated with ROBERT SPEIR, Esq., of West Milton. There is, first, a short post, firmly placed in the earth, rising about eighteen inches above the surface; to this, the posts supporting arches, trellises, or frames, are secured by two stout wooden pins, passing through auger holes bored in both. If the trellis be covered by any tender vine, in the fall, let the upper pin be pulled out, and the post will turn on the

other pin as a hinge, and he laid down without disturbing the vine, and safely covered up until spring.

I have tried several remedies for the curculio without success, until this spring, when I laid sheets under the trees, and jarred the trees, as recommended in your pages, and killed all that fell on the sheets. I repeated this three times about the time the blossoms were falling, and have, for the first time for many years, an abundant crop of plums. *M. S. T. Rose Hill, Saratoga county.*

ANSWERS TO CORRESPONDENTS.

PRESERVING GRAPES.—*A. B.*, (New-London, Ct.) Your grapes should be packed in small boxes, or baskets, holding a little more than half a peck each—between layers of cotton wadding, (not batting.) Keep them in a cool garret, or dry cellar, where the frost will not penetrate.

TRANSPLANTING.—*W.*, (Trenton, N. J.) Your failure in transplanting is unquestionably owing to your allowing the trees to remain with the heads entire. In a dry summer, trees so planted will almost always fail; when others, the limbs of which are shortened back pretty severely on planting, succeeded perfectly.

INSECTS.—*W. Anderson*, (New-York.) The soil of your garden has become filled with insects. Dig it deeply, and throw it up into ridges at the approach of winter; and if there occurs a mild interval during winter, break it up and re-ridge it. The frost will destroy the eggs and larva of a large part of the insects. Early in the spring, to complete the matter, give the whole a broadcast dressing of salt, at the rate of six bushels to the acre. This will effectually destroy the "cut-worm," and all the other pests you complain of.

PEACH TREES.—*T. Jones*, (New-York.) You will never succeed in getting a healthy stock of peaches until you take the trouble to procure peach trees from the western part of this state, or some other district where the yellows is unknown. Trees raised from stones gathered about the markets in New-York, must necessarily produce a large proportion of diseased seedlings; and, if budded, the sort worked upon such stocks will partake of the constitutional taint.

HERBACEOUS PLANTS.—*An Inquirer*, (Bangor, Me.) When the roots have stood for a long time in the same place, the soil becomes exhausted, so that the growth is feeble and the flowers are poor. The remedy is either to change the roots to a new border, or to take them up and renew the border by trenching and manuring, or by bringing in some new soil. The roots should also be divided when they have formed large branches. *Pæonies* should be removed in the autumn, or very early in the spring. All herbaceous plants may be put out with success in the autumn, especially if the buds of the more tender ones are covered with a few inches of leaves, or litter, till spring opens.

LIST OF FRUITS.—*A Young Planter*, (Colum-

bus, O.) The following are the best varieties for your purposes: *Apples*—Baldwin, Northern Spy, Porter, Belmont, Fall Pippin, Newtown Pippin, Ladies' Sweeting, Melon. *Pears*—Gray Dovey, Seckel, Paradise d'Automne, Dearborn's Seedling, Bartlett, Rostiezer, Beurre d'Arenberg. *Cherries*—Mayduke, Elton, Black Eagle, Black Tartarian, Downer's Late, Belle Magnifique. *Plums*—Green Gage, Jefferson, Smith's Orleans, Purple Favorite, Frost Gage, Coe's Late Red.

GR. PE-VINES.—*A Connecticut Subscriber.* Eyes, planted in pots, will succeed well in either mode. Many persons think cuttings, made in this way, do best when halved, because there is more surface from which new roots are emitted.

PERSIAN MELONS.—*Ibid.* Repeated trials have proved that these melons are too delicate in this climate for out-of-door culture; and the flavor is not so much finer than the well known "Citron melon," that many growers will attempt a culture, requiring so much care. It is extremely difficult to get genuine Ispahan melon seed, even in England; three-fourths of those received under this name, prove a worthless yellow cantelope.

MARKET FRUITS.—*A Young Orchardist*, (New Bedford.) Plant Baldwin and Roxbury Russets for profit in your soil and climate. Probably the Lombard is the most suitable plum. Lime will not answer to reduce peat—but lime slaked with brine will. See the leader in this number.

PEARS. *Z. Q.*, (Binghamton, N. Y.) From your description we think your pear is the *Passe Colmar*. In order to get good specimens of this variety, you must thin out the crop of fruit early in the season, and not allow any second crop to form, as it often does.

BOOKS.—*A Subscriber*, (Roxbury, Mass.) The coloured edition of our *Fruits and Fruit Trees* will be ready in a few days; the "Country Houses," has been extended beyond our original plan, and will still require a few weeks longer before it is out of press. We have no connection with any nursery or commercial garden whatever.

GREEN HOUSES. *C. L.*, (Fayetteville, N. C.) Green-house plants would do well in the house all summer with you, if the house were shaded by nets, or the glass clouded by a thin coat of whitening on the under side. Plants never do well under the shade of trees in summer.

COMPOSTS. *D. D. J.*, (Hamden, Ct.) We assume 30 bushels to the wagon load. Leached ashes are twice as strong as unleached, and therefore double the quantity should be used. Bone dust would improve this compost, and should be added at the rate of one bushel to the wagon load. Use a barrowful of this compost to each hole six feet wide and three feet deep. If the subsoil is a hard pan which holds water, you may fill up 4 or 5 inches of the bottom with small stones.

. Several notices of new fruits, and domestic notices, intended for this number, are unavoidably postponed to the next.

MASSACHUSETTS HORTICULTURAL SOCIETY.

BUSINESS MEETINGS.

Sept. 22, 1849.—President SAMUEL WALKER in the chair.

Voted, That the sum of \$25 be paid by the treasurer to Mr. David Haggerston, for the services rendered by him during the annual exhibition.

Voted, That a committee of three be appointed by the chair, to nominate a list of officers, professors and committees for the coming year, and report at the next meeting.

Messrs. Josiah Lovett, 2d., David Haggerston and E. M. Richards were appointed that committee.

Complaint having been made by members and others, contributors to the annual exhibition, of the loss of their contributions, it was

Voted, That a committee of three be appointed by the chair, to take into consideration what means can be adopted to prevent the occurrence of like loss for the future; and Messrs. Joseph Breck, David Haggerston and R. M. Copeland were appointed said committee.

The President, in behalf of the executive committee, applied for the loan of the dishes, plials, &c., of the society, for the use of the Norfolk Agricultural Society, at their annual show; and it was

Voted, That the society loan to the Norfolk Agricultural Society such of their glass ware as they may wish, to use at their exhibition,—said society paying all the expense of transportation, labor, breakage, &c. &c.

Sept. 29.—President SAMUEL WALKER in the chair.

The committee appointed at the last meeting to nominate a list of officers, professors and committees, for the coming year, submitted a printed list, which was recommitted to the same committee, with instructions to make such alterations as were rendered necessary by the declining of nominees.

The committee appointed to take into consideration the adoption of means to prevent the loss of contributions to the exhibitions of the society, submitted the following report:

The committee appointed to investigate the subject of purloining fruit and vegetables from the hall of the society, at the close of the last exhibition, report that they have made diligent inquiry, but have not received information sufficient to substantiate a charge against any person. The committee consider the offence one of the most aggravated and disgraceful character, and recommend that, for the future, if any member of the society be detected in an act so mean and contemptible, that he be EXPELLED from the society. Or if it be any one in the employ of the society, that he be forthwith discharged from that service.

The committee recommend that, on future occasions, a committee of three be chosen, whose duty it shall be to be present during the clearing of the hall, and attend to the delivery of fruits, vegetables, &c., and in no case to deliver to any other person than the contributor, without a written order.

JOSEPH BRECK, Chairman.

Voted, That the report of the committee be accepted, and placed upon the records of the society.

Mr. C. M. HOVEY, as chairman of the committee appointed to prepare and present to Hon. H. A. S. DEARBORN the first president of the society, the Society's Gold Medal, as a mark of esteem for the essential services he rendered to the science of horticulture, and the interest of the society, during the period he presided over its affairs, reported that he had attended to the duty assigned them, and submitted the following correspondence:

Boston, Sept. 27, 1849.

HON. H. A. S. DEARBORN—Dear Sir: Agreeably to a vote of the Massachusetts Horticultural Society, passed at the annual meeting, Jan. 6th, 1849, a copy of which is enclosed, we now, in accordance with that vote, have the pleasure of presenting you with the Society's Gold Medal.

Many years have passed away since you presided at the head of our association; when your zeal in the cause of horticultural science—your untiring exertions to render popular the pleasing pursuit, to which it is essentially devoted—your arduous labors while guiding its affairs in the infancy of its organization, and your extensive correspondence with gentlemen of science in every country and clime, gave the society a standing and position, which has since caused it to be looked upon as the parent association of our country.

As a small but not the less earnest tribute for your labors, as the first president of the society, at a period when, in ad-

dition to horticultural affairs, that noble monument of your devotion to its interests—Mt. Auburn Cemetery—was projected, we now present you with the Society's Gold Medal, and beg your acceptance of the same.

With the assurance of our best wishes for your health and prosperity, we have the honor, &c., Respectfully yours,

C. M. HOVEY,
CHEEVER NEWHALL } Committee.
E. M. RICHARDS.

Hawthorn Cottage, Roxbury, Sept. 28, 1849.

GENTLEMEN—This afternoon I received, with great pleasure, your very kind letter, and the beautiful gold medal, which the Massachusetts Horticultural Society has so generously conferred upon me; and I request that you will do me the favor of presenting my grateful acknowledgments to the members of that important institution for the honor they have done me. I deeply regret, however, that my humble efforts to promote one of the most interesting branches of rural industry, have not been more worthy of such distinguished consideration, and so precious a reward.

For the very favorable manner in which you have been pleased to estimate the very limited service I have attempted to render my fellow citizens, who are interested in the various departments of useful and ornamental cultivation, I offer my sincere thanks.

With the most ardent aspirations for the prosperity of the society, and your individual happiness,

I have the honor, gentlemen, of being
Your much obliged and obedient serv't,
H. A. S. DEARBORN.

October 6.—The annual election of the Massachusetts Horticultural Society, for the choice of officers, professors and committees for the coming year, took place at their library rooms, School-street, Oct. 6th. Vice-President CHEEVER NEWHALL in the chair.

Voted, That the polls be kept open 30 minutes, for the election.

The chair appointed Josiah Newhall and A. D. Williams, jr., a committee to assort, count, and report the number of votes given, who reported the following list as unanimously elected:

President—SAMUEL WALKER.

Vice-Presidents—BENJAMIN V. FRENCH, CHEEVER NEWHALL, EDWARD M. RICHARDS, JOSEPH S. CABOT.

Treasurer—WILLIAM R. AUSTIN.

Corresponding Secretary—EBEN. WIGHT.

Recording Secretary—E. C. R. WALKER.

Professor of Botany and Vegetable Physiology—JOHN LEWIS RUSSELL.

Professor of Entomology—T. W. HARRIS, M. D.

Professor of Horticultural Chemistry—E. N. HORSFORD.

Committee on Fruits—Joseph S. Cabot, Chairman; Eben. Wight, Josiah Lovett, Joseph Breck, Robert Manning, George R. Russell, C. M. Hovey.

Committee on Flowers—David Haggerston, Chairman; Alexander McLennan, Wm. B. Richards, E. A. Story, Lyman F. Winslow, E. C. R. Walker, Parker Barnes.

Committee on Vegetables—A. D. Williams, jr., Chairman; William B. Kingsbury, James Nugent, Azell Bowditch, Aaron D. Weld, S. W. Cole, George Pierce.

Committee on the Library—Charles M. Hovey, Chairman; Henry W. Dutton, R. M. Copeland, Joseph Breck, John Owen.

Committee on Synonyms of Fruit—M. P. Wilder, Chairman; P. B. Hovey, Robert Manning, Josiah Lovett, and Chairman of the Fruit Committee.

Executive Committee—The President, Chairman; the Treasurer, Marshall P. Wilder, E. M. Richards, Otis Johnson.

Committee for establishing Premiums—Chairmen of the Committees on Fruits, Flowers and Vegetables, Josiah Lovett and P. B. Hovey.

Finance Committee—Marshall P. Wilder, Chairman; Josiah Stickney, Otis Johnson.

Committee of Publication—Eben. Wight, Chairman; Josiah Lovett, Joseph Breck, the Recording Secretary, and the Chairmen of the Committees on Fruits, Flowers and Vegetables.

Daniel Denny, of Boston, was elected a member of the society. EDWARD C. R. WALKER, Rec. Sec'y.

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“MOVABLE property, or capital, may procure a man all the advantages of wealth; but PROPERTY IN LAND gives him much more than this. It gives him a place in the domain of the world; it unites his life to the life which animates all creation. Money is an instrument by which man can procure the satisfaction of his wants and his wishes. Landed property is the establishment of man as sovereign in the midst of nature. It satisfies not only his wants and his desires, but tastes deeply implanted in his nature. For his family, it creates that domestic country called *home*, with all the loving sympathies and all the future hopes and projects which people it. And whilst property in land is more consonant than any other to the nature of man, it also affords a field of activity the most favorable to his moral development, the most suited to inspire a just sentiment of his nature and his powers. In almost all the other trades and professions, whether commercial or scientific, success appears to depend solely on himself—on his talents, address, prudence and vigilance. In agricultural life, man is constantly in the presence of God, and of his power. Activity, talents, prudence and vigilance are as necessary here as elsewhere to the success of his la-

bors; but they are evidently no less insufficient than they are necessary. It is God who rules the seasons and the temperature, the sun and the rain, and all those phenomena of nature which determine the success or the failure of the labors of man on the soil which he cultivates. There is no pride which can resist this dependence, no address which can escape it. Nor is it only a sentiment of humanity, as to his power over his own destiny, which is thus inculcated upon man; he learns also tranquility and patience. He cannot flatter himself that the most ingenious inventions, or the most restless activity, will secure his success; when he has done all that depends upon himself for the cultivation and fertilization of the soil, he must wait with resignation. The more profoundly we examine the situation in which man is placed, by the possession and cultivation of the soil, the more do we discover how rich it is in salutary lessons to his reason, and benign influences on his character. Men do not analyze these facts; but they have an instinctive sentiment of them, which powerfully contributes to the peculiar respect in which they hold property in land, and to the preponderance which that kind of property enjoys over every other. This

preponderance is a natural, legitimate and salutary fact, which, especially in a great country, society at large has a strong interest in recognising and respecting."

We have quoted this sound and excellent exposé, of the importance and dignity of the landed interest, from a late pamphlet by a great continental statesman, only to draw the attention of our agricultural class to their position in all countries—whether monarchical or republican—and especially to the fact, that upon the intelligence and prosperity of the owners of the soil, here, depends largely the strength and security of our government, and the well working of most of its best institutions.

Where, then, must we look for the explanation of the fact, that in every country the cultivators of the soil are the last to avail themselves of the advantages of skill and science? That everywhere they are the last to demand of government a share of those benefits which are continually heaped upon less important, but more sagacious and more clamorous branches of the body politic?

Is it because, obliged to trust largely to nature and Providence, they are less active in seizing the advantages of education than those whose intellect, or whose inventive powers, are daily tasked for their support, and who cultivate their powers of mind in order to live by their exercise?

These are pertinent questions at this moment; for it is evident that we are on the eve of a great change in the future position and influence of the agricultural class in this country. The giant that tills the soil is gradually wakening into conscious activity; he perceives his own resources; he begins to feel that upon his shoulders rests the state; that from his labor comes the material forces that feed the national strength; that from his loins are largely

drawn the strong men that give force and stability to great impulses and sound institutions in republican America.

Is it to be supposed that, with this newly awakening consciousness of the meaning and value of his life, the farmer—the owner of the soil in America—is not to seize any advantages to develop his best faculties? Does any thinking man believe that such a class will continue to plough and delve in an ignorant routine, in an age when men force steam to almost annihilate space and lightning to outrun time?

And this brings us at once to the great topic of the day, with the farmer—**AGRICULTURAL SCHOOLS.**

Now, that it is confidently believed that we are to have a great agricultural school in the state of New-York—a school which will probably be the prototype of many in the other states—some diversity of opinion exists as to the character of that school.

"Let it be a school for practical farming—a school in which farmers' sons shall be taught how to plough and mow, and 'make both ends meet,' and show farmers how they can make money," says one.

"Give us a school in which the science of agriculture shall be taught, where the farmer's son shall be made a good chemist, a good mathematician, a good naturalist,—yes, and even taught Greek and Latin, etc., so that he shall be as well educated as any gentleman's son," says a second.

"A farm school ought to support itself, or it is worth nothing," says a third.

"It should be liberally endowed by the state, so as to secure the best talent in the country, or it will be the nest of charlatans," says a fourth.

"It should be a model farm, where only the best practice and the most profitable modes of cultivation should be seen," says a fifth.

"It should be an experimental farm, where all the new theories could be tested, in order to find out what is of real value," says a sixth.

And thus, there is no end to the variety of projects for an agricultural school,—each man building on a different platform.

Yet there must be some real and solid foundation on which to erect the edifice of a great educational institution for farmers. And we imagine these supposed differences of opinion may all be reconciled, if we examine a little the sources from which they originate.

Agriculture is both a science and an art. It may be studied in the closet, the laboratory, the lecture room; so that a man may have a perfect knowledge of it in his head, and yet not know how to perform well a single one of its labors in the field; or it may be gained by rote in the fields, by one who cannot give you the reason for the operation of a single law of nature which it involves. The first is mere theory—the second, mere practice.

It is easy to see, that he who is only a theorist is no more likely to raise good crops profitably, than a theoretical swimmer is to cross the Hellespont like Leander; and that the mere practical farmer is as little likely to improve on what he has learned by imitation, as his horse is to invent a new mode of locomotion.

The difference of opinion, regarding the nature or the province of an agricultural school, seems mainly to grow out of the different sides from which the matter is viewed—whether the advocate favors science or practice most,—forgetting that the well educated agriculturist should combine in himself both the science and the art which he professes.

The difference between *knowledge* and *wisdom* is nowhere better illustrated than

in a mixed study, like agriculture. Knowledge may be either theoretical or practical; but wisdom is "*knowledge put in action.*" What the agricultural school, which this age and country now demands, must do to satisfy us, is to teach—not alone the knowledge of the books—not alone the practice of the fields, but that *agricultural wisdom* which involves both, and which can never be attained without a large development of the powers of the pupil in both directions. His head and hands must work together. He must try all things that promise well, and know the reason of his failure as well as his success. To this end, he must not be in the hands of quack chemists and quack physiologists in the lecture halls, or those of chimerical farmers or dull teamsters in the fields. Hence, the state must insist upon having, for teachers, only the ablest men; men who will teach wisely, whether it be chemistry or ploughing,—teach it in the best and most thorough manner, so that it may become wisdom for the pupil. Such men are always successful in their own sphere and calling, and can no more be had for the asking than one can have the sun and stars. They must be sought for and carried off by violence, and made to understand that the state has a noble work for them, which she means to have rightly and well done.

To achieve this, an agricultural school must be planned, neither with a lavish nor a niggardly spirit. As agriculture is especially an industrial art, the manual labor practice of that art should be an inevitable part of the education and discipline of the pupils. But to base the operation of the school upon the plan of immediate profit, in all its branches, solely, would, we conceive, cut off in a great degree the largest source of profit to the country at large.

The pupils would leave the school either as practical farmers after a single model, or they would leave it with their heads full of unsatisfied longings after theories which they had not been permitted to work out. They would be destitute of that *wisdom* which comes only from knowledge and experience combined, and would go home only to fail in applying a practice suited to a different soil from their own, or to indulge (at large personal loss,) theories which might have been forever settled in company with an hundred others, at the smallest possible cost to the state.

We rejoice to see the awakened zeal of the farmers of the state of New-York, in this subject of agricultural education. We rejoice to find a large majority of our legislature warmly seconding and supporting their wishes; and most of all, we rejoice to see a governor who unceasingly urges upon our law-makers the value and necessity of a great agricultural school. One of our contemporaries—the editor of the *Working Farmer*—has aptly remarked that WASHINGTON was our only great statesman who had “the moral courage to advocate the rights of farmers. Statesmen mistake the more apparent praise of other classes for the praise of the majority.” If, however, the views of HAMILTON FISH, regarding this subject, are carried out by the legislature of this state, the people will owe him a great debt of gratitude, for urging the formation

of an educational institution, which will, both directly and indirectly, do more to elevate the character of the great industrial class of the nation, and develop the agricultural wealth of the country at large, than any step which has been taken since the foundation of the republic.

An agricultural college, for the complete education of farmers, where the *wisest general economy of farming*, involving all its main scientific and practical details, successfully established in the state of New-York, will be the model and type of a similar institution in every state in the Union. Its influence will be speedily felt in all parts of the country; and it is therefore of no little importance that the plan adopted by the legislature should be one worthy of the object in view, and the ripeness of the times.

Above all, when a good plan is adopted, let it not be rendered of little value by being entrusted for execution to the hands of those who stand ready to devour the loaves and fishes of state patronage. It is easy to devise, but it is hard to execute wisely; and we warn the farmers in our legislature, the State Agricultural Society, (which has already done such earnest service in this good cause,) and the Executive to guard against a failure in a great and wise scheme, by entrusting its execution, to any but those whose competence to the task is beyond the shadow of a doubt.

NOTES ON THE EVERGREEN IVY.

BY J. JAY SMITH, PHILADELPHIA.

It has always appeared unaccountable, that the evergreen ivy should be so much neglected as it is in America. In the time of Kalm, he found only one plant, which was trained against a house, during the whole of his travels in this country; and to this day it is entirely too rare. It is extremely ornamental, readily propagated, and produces effects that no other plant can do. A whole ugly village might be changed in

its appearance by a plentiful planting of evergreen ivy. But to make our essay on this, our favorite climber, more complete, let us begin at the beginning,—taking some of our facts from writers who have anticipated us.

The hardy sorts are evergreen shrubs, climbing by the clasping roots produced by their stems; but there are a number of species considered at present to be of this genus, natives of warm climates, growing to the height of from 15 to 20 feet, without support. It is naturally a rooting climber; but when these roots are opposed by a hard substance which they cannot penetrate, they dilate and attach themselves to it, by close pressure on the rough particles of its surface. On very smooth surfaces, such as that of a house or wall that has been stuccoed, or smoothly plastered, no dilatation of the fibril is sufficient to cause the ivy to adhere firmly; and hence, in such situations it always falls down, either when rendered heavy by snow, or when acted on by wind. In some cases we have known, young plants required to be steadied in order to make a commencement; and in such circumstances we have found it advantageous to nail a little cloth beneath, and attach the ivy to it by a small nailed strap. In instances where it refuses to cling after this attempt, trellis work ought to be fixed, or the main shoots may be nailed, like those of a wall tree. When ivy trails on the ground, it roots into it and grows vigorously, but rarely flowers, and is then called barren, or creeping ivy. When it climbs up trees, or in any situation where it is much shaded, it seldom, if ever flowers, until it has grown so high as to be subject to the direct influence of the sun. On walls fully exposed to the light, it flowers abundantly. Whatever support it may have, when it has reached the sum-

mit, the branches shorten and become woody, forming themselves into large, shrubby, bushy heads; and the leaves become entire, taking more of an oval shape, and no longer being lobed, like the lower ones. It now flowers freely, when other flowers are scarce; and being odoriferous, and containing a good deal of honey, they are much frequented by bees, which extract a valuable support from them. The berries increase in size during the winter, and the plant itself may be observed to shoot vigorously during the cold weather.

The common ivy will grow to the tops of trees nearly 100 feet in height; but it is said to be doubtful whether the Irish variety will attain the same elevation, though it grows with much greater vigor when young. Rooted plants, placed in good soil, have grown in our neighborhood four and five feet in one year. Against the warm walls of a dwelling-house, having chimney flues in it, it continues its rapid ascent, and is for such places, and indeed for all immediate effects, much the most desirable kind.

The duration of the ivy is very great. Some of the plants against ruined castles and abbeys, which we have seen abroad, are, no doubt, two or three centuries old. Those on Kenilworth towers, and in some places in Ireland, have shot up solid tree-like branches far above the top; and some of them there, having lived their allotted span, leave the appearance of a flag-staff standing up from "the embattled wall." There is a golden-leaved variety, not yet cultivated among us, appearing in spring, after it has made its new leaves, like an immense mass of yellow flowers.

Trained to a pole, or an irregular cedar tree, and allowed to branch out at its summit, it forms a very striking object in small gardens,—giving in winter a green aspect

and cheerful tone. One such instance, in Philadelphia, has caused us often to visit the parlor from which it is seen for this object alone. A very singular effect produced by ivy, occurs in the approach road to Warwick castle, within the outer wall. The road is cut through a solid bed of sandstone rock, and its sides are in some places upwards of 12 feet high, and perpendicular and smooth. Ivy has been planted on the upper surface of the ground, forming the summit of these perpendicular walls of rock, in order that it might creep down and cover their face. Instead of creeping, however, the ivy has grown over without attaching itself; and its long, pendulous, matted roots, trailing even on the coach road, waving to and fro with the wind, might be compared to an immense sheet of water, falling over a perpendicular rock. In close shrubberies, in gardens, where neither grass nor any other green plants will grow on the surface, the ivy forms a clothing of perpetual verdure. Trained against espaliers, lattice work, iron hurdles, or wire frames, it forms, in a very short time, most beautiful evergreen walls, or hedges, for the separation or shelter of flower gardens. In short, there is no evergreen shrub capable of being applied to so many important uses as the common ivy; and no garden can dispense with it. The London gardeners have a plan which we commend to the notice of our own; they raise immense quantities in pots, and train it to stakes of from 6 to 12 feet in height, so that, at any season of the year, a hedge may be formed of it, or a naked space covered with it, at an incredibly short notice. By placing pots of ivy in the balconies of the different windows of a perfectly new house, the whole front, in one day, may be covered with rich evergreen leaves, as effectually as if it were an old building,

in a secluded rural situation. Another valuable use, to which the ivy may be applied, is to form external framings to the windows instead of architraves.

But we have not done with the uses of this beautiful plant. Some ladies of our acquaintance train it round four stakes; thus making green walls into which they place their pots, or glasses of Hyacinths and Tulips when in bloom. Nothing can be more ornamental. Others plant it in boxes, and train it on light bamboo espaliers, where it forms a rustic screen for the window. With a green baize on the back or parlor side, the effect from the street is superb; and in very large drawing-rooms, plants in boxes or vases, trained on wire parasols or eapaliers, will form a rustic canopy for small groups of parties, who may seat themselves under its shade, in the same manner as parties sit under orange trees in the public rooms of Berlin, and of other cities of the continent. Where the view from the window of a town house is contracted, or disagreeable, it may always be improved by ivy, planted in boxes, and trained as espaliers,—being placed within the room at a sufficient distance from the window not to exclude the light, and yet sufficiently near to serve as a screen; or by so disposing of plants on the outside as to conceal or disguise the disagreeable objects, and create an allusion to the country.* Another great advantage of the ivy in small and suburban gardens is, that by its berries it attracts birds in early spring, and by its dense foliage it forms excellent situations for nests. Whether it is injurious to trees or not is a disputed point; but we believe that in time the network that is ul-

* In these remarks, there is nothing impracticable. The giant or Irish variety should be used on account of its rapid growth; the plant bears the heat of the parlor admirably, and a little time only will be required to produce all these effects. As a division fence for burial lots in our rural cemeteries, the ivy, trained on the new and cheap wire fences, would be admirable.

timately formed by it, prevents the tree from expanding, and injures, if it do not kill it. But we should prefer an ivy clad tree for twenty years to a bare one for thirty. Buildings are not injured by it, except where shoots can find their way through cracks or crevices, where it may expand and cause an extended opening.

Bacchus is represented crowned with ivy, some poets say because it has the effect of dissipating the fumes of wine. It is considered symbolical of friendship, for the closeness of its adherence to the tree on which it has once fixed itself. Its constancy has rendered it a favorite device for seals; some of the best of which are a sprig of ivy, with the motto—"I die where I attach myself;" and a fallen tree, still covered with ivy, with the words—"Even ruin cannot separate us."

To attain a large size, it requires a good soil; it grows best in the shade, and in a northern rather than a southern exposure. Unless the soil is kept in a uniform state of moisture, and shaded, it will not root readily; we therefore recommend its purchase in pots, where they can be had. Some specimens of old ivy trunks measure nearly twenty inches in diameter. When

slips are planted, do not bury them deep; rather lay them near the surface.

We have not exhausted the subject, but fear to extend this article, which is the result of some experience, aided by the remarks of Mr. LOUDON, in his *Arboretum Britannicum*,—a work remarkable for its extraordinary research; every topic, connected with arboriculture and floriculture, being treated in a manner that leaves little to be desired. The difficulty is, that it is so expensive. An abridgment, however, has been published in London, which every frequenter of a garden should possess, if he cannot compass the larger copy, the cost of which is about fifty dollars,—four large volumes of text, and four smaller of plates.

[Our correspondent has not overrated the merits of the finest of all climbers. Perhaps the finest specimen in America is at Sunnyside, the cottage of WASHINGTON IRVING, on the Hudson, the walls of which are wreathed and covered with it, as with the richest drapery. North of this, the ivy is rather tender, and will only succeed on the north sides of buildings, or walls, or under the shade of trees, where it is protected from the sun in winter, which kills it by sudden thawing after severe frost. ED.]

ON THE CULTIVATION OF GREEN-HOUSE PLANTS.

BY R. B. LEUCHARS, NEW-HAVEN.

THE season is now at hand, when plants that have been previously stowed away into summer receptacles must be attended to, and arranged in their winter quarters. And the inquiry will come home to every gardener, who has plants under his charge, which plants are those that endure a greater severity of cold than others? and why is it

that a plant will at one time survive a given amount of frost, and at another time be killed? Why is it, also, that the points of the shoots of certain plants are killed by a slight frost, while no other part of the plant sustains injury? These questions are purely practical, are exceedingly interesting, and are worthy of our candid consideration.

To receive a satisfactory answer to these questions, it is not absolutely necessary for us to ransack the foundations of every impracticable whimsicality and physiological theory that we may hear of. Acute observation will quickly develop principles that will form the groundwork of true and practicable theories. An experienced gardener, or any person acquainted with plants, is seldom at a loss to account for any particular effects upon his plants after he has carefully examined them; and he can form a pretty correct idea what they have been subjected to. I do not mean to raise the question,—although it might be interesting enough in a country of so varied climates as this,—how long, under ordinary circumstances, would a gardener require to make himself master of all the peculiarities of locality and climate, in any given situation where he may be called on to exercise his practical skill? Certain it is, that these peculiarities must be learned; for we are all aware that locality and climate act upon plants in a very striking and remarkable manner. It is no less certain, however, that plants are changed in an equal, if not greater, degree by good management. Indeed, it may be said that the science of gardening, if carried out to its legitimate end, either does, or ought, in the hand of experienced gardeners, to set aside in a great degree such local causes and their effects. No one that has witnessed the splendid specimens of flowering plants, brought forward at the London exhibitions, and compared them with the wretched looking objects of the same sorts to be seen in many private collections, will fail to assent to the justice and truth of the above assertion. In this particular, the best exhibitions I have yet seen in this country are immeasurably behind,—not in quantity, indeed, for their number in some collections is legion,—but

in quality. Like causes, however, produce like effects. The management of green-house plants is no mystery, although many are too apt to look upon green-house plants as having something mysterious about them.

In the culture of plants, as in every other department of gardening, it is necessary that there should be line upon line, and precept upon precept, to keep us in constant remembrance of the important fact, that nearly all the plants, from the temperate regions of the globe, make and mature their growths at different periods and under different circumstances from those which popular belief generally receives. We are too apt to treat plants as if they just commenced with the periodical return of spring, and continued to grow and shoot until they were checked with the colds of autumn. Different kinds of plants grow and ripen their shoots at different periods of the year; some in early spring, some at mid-summer, and others in autumn. This fact alone will show the vast importance of bestowing all possible care upon plants in pots during the short period of their growth; for it will generally be found that the bloom of the future year will depend chiefly upon the manner in which the growths of the preceding year have been treated. There may be solitary exceptions to this rule in neglected plants blooming abundantly; but these exceptions only prove its truth.

When plants have been turned out into their summer situation, they in many cases receive little more attention (except watering,) till the approach of frost renders it necessary to return them again to the greenhouse, by which time they have not unfrequently become soured, and saturated with the autumn rains. The soil in the pots will be charged with stagnant moisture—the particles disintegrated, and reduced to a soft, pulpy mass. The moisture having

displaced every particle of atmospheric air, and by its own specific gravity the earth, in the event of drying, subsides, and acquires a degree of adhesion by which the roots of plants are invariably destroyed. Moreover, when they are placed in the house, and thereafter subjected to the influence of fire heat, they must continue in their condition of uncomfortable sourness, by the necessary application of water; or, if allowed to become dry, and the excess of water expelled, the roots will then be embedded in a substance approaching pretty nearly to the consistence of a brick-bat. Every cultivator is aware that in such a condition the plants can neither be healthy, vigorous, nor bloom abundantly. In these cases, it will be advisable to turn out the plant, and take away as much of the inert soil as possible, without damaging the roots, and replace it in a clean well drained pot, filling up with good rough turfy soil, mixing it with pieces of charcoal about the size of a walnut. Indeed, many plants will stand a liberal shift at this season, if large specimens be desired. Those not shifted should, nevertheless, be turned out and well examined, to see if they are all right as regards drainage. Some may object to this turning out and shifting of plants in the autumn. It may have its faults, like most other systems; but it has also its advantages. And upon the whole, I see no necessity for adhering rigidly to established rules as to the time or season for shifting plants, merely because it was the custom of our grandfathers to turn out all their plants, and shift them at particular seasons of the year. For my part, I shift a plant always when I find it requisite, any day all the year round, providing I have materials at hand in a proper condition for doing so; a circumstance that should be provided for, by having a quantity of peat and loam in

a turfy state, secured under cover for winter use.

Whenever the weather assumes an unfavorable aspect, plants in pots, standing out of doors, should receive attention. I have seen good specimens damaged irretrievably by a sudden change of weather. Dashing rains, followed by a slight frost, at a time when the plants are in a bad condition to bear it, will completely nullify all the care of the preceding summer.

I presume it will hardly be necessary for me to mention, that previous to housing the plants, the house must undergo a thorough cleansing; every shelf-nook and crevice should be well scrubbed out, so that all insects, with their eggs and deposits, may be exterminated. The most effectual method of doing this, is by fumigating the house with sulphur. This can only be accomplished, however, when the house can be entirely cleared of plants; as the sulphurous gas, even in very small quantity, destroys vegetable as well as animal life. Therefore, when there are climbers or large plants that cannot be conveniently removed, the house may be fumigated with tobacco instead. In either case, the house must be thrown open, and well aerated for a day or two after smoking. The crowd of summer flowering plants, such as Gloxinias, Achimenes, &c., will now be losing, or will have lost their beauty, and may be stowed away on back shelves and any other dry airy place to ripen their tubers, withholding water gradually as the foliage fades. It is likewise of great importance to have any alterations and repairs done in plant structures at this time. The heating apparatus, of whatever kind, should be examined and put in good working order. Attention to these things, at this season, will probably save a good deal of time and trouble, after we are once fairly fettered by the "ice

king." But on this subject I will make some remarks in my next paper.

In staging the plants, they should receive as much room as the structure will admit; and those that are less hardy than others should be placed where they will be less exposed to currents of cold air during the months of winter. The plants ought to be systematically arranged; for, simple as this matter may appear, much of the beauty and interest of the house, as well as the well being of the plants, depends upon the manner of their arrangement,—placing them so as to harmonise with each other,—keeping an eye at the same time to the placing of those plants in those parts of the house which are best adapted for them. When the house is filled, it should continue to be freely aired night and day, until severe weather renders it necessary to shut up at night. And this ought to be done gradually, otherwise many of the plants will be started into growth by the sudden stimulus; and Camellias in particular are very likely to drop their buds, and their leaves to assume a yellowish hue. This is a common occurrence; and it is with severe and uncontrollable reluctance that we ascribe this sickly appearance to the cause which produced it. We are too apt to forget that it is one of the most valuable qualifications of a good gardener; and one, too, that ought to receive credit for its worth, to be able to attribute each effect to its own cause, without manifest confusion, and questionable reconciliations of discrepancies.

In a geographical range, (if I may so call it,) so wide and so varied as that enjoyed by your excellent journal, let it not be expected that any given routine of practice therein inculcated, can be equally applicable to all sections, in the culture of fruits, flowers or vegetables; and in offering these remarks, my object is chiefly to direct the

attention of gardeners to those primary and important questions in the first paragraph of this paper,—questions so intimately connected with successful culture; for unless our minds are very much occupied with the things about us, we shall derive but little advantage from either, for the guidance of our actions and the forming of our principles. It is but little use for a gardener to possess a smattering of scientific knowledge, unless he can associate it with proper ideas of things around him, and reduce it to practice in his daily operations. We must raise the standard of gardening by our own exertions, and chiefly through practical perseverance. Meantime, I will conclude by observing to those who may read these papers, that they are solely intended for those who are young in the art, and whose practical knowledge may not be equal to their zeal. I am aware some will cavil at many of my remarks; but it is difficult to please every one, and it's idle to try. If I have made any mistatements, I shall be glad, and thankful, to be set right; but I have neither time, taste, nor talent for recriminating controversies, being convinced that those who resort to such quibbles manifest that they argue more for a controversial triumph than the elucidation of truth; probity is frequently overlooked, and usefulness has nothing to do with the matter. These remarks are the result of hard earned experience, and what I conceive to be true. I do not write for those who are too knowing to learn, and too prejudiced to be convinced; but for those who are willing to be instructed, and whose minds are open to advice. I trust my good intentions will be appreciated by those whose good opinion is worth having; and as for the other class, I neither dread their opinion, nor court their applause.

R. B. LEUCHARS.

October 10, 1849.

A CHAPTER ON BIRDS.

BY ORNITHOLOGY, RHODE-ISLAND.

AN article in the October number of the Horticulturist, recommends giving accommodations to wrens in and about our enclosures.

Permit me to give the character of this little bird, without scandal, vouching for the truth of every charge, which may be confirmed by the observation of any one.

One pair of blue birds will destroy more injurious insects than six pair of wrens,—the food of the latter being partly spiders. There is another objection to the wrens; they will drive away from their district any other bird, by destroying their nests and eggs. A neighbor of mine shot eleven of these little pirates in one season, after which the swallows, blue birds, robins, sparrows, &c., returned and rebuilt their nests. Where there is room enough, every house should have about it from one to ten bird boxes—all single—made of half inch boards, four and a half by six inches, in the clear, inside. The hole, or door, should be two inches in diameter, made near the upper end, with a perch broad as the box, like a shelf, *tenoned* in, two inches below it, and projecting three inches, the outer corners rounded. The piece which forms the back part of the box should extend beyond the rest, either up or down, about four inches, by which the box may be screwed or nailed to a building, or the trunk of a tree. They should never be placed nearer to each other than forty feet; and it is best that no one be visible from another, as birds are *jealous*. A bird house, with accommodations for more than one pair, is useless, except for martins; as no other [wild] birds live in communities in tenements thus provided for

them. The martins here were nearly all destroyed by a very cold N.E. storm in the latter part of May, twenty years since; and I may add the swallows, which feed wholly on insects *on the wing*. That storm continued until they starved; no winged insects left their retreats for upwards of ten days. Since that time, few martins have been seen in New-England. In their place, we now have the white bellied swallow, which before were rarely seen; but they require separate lodgings, not nearer than thirty feet. The clift, or Rocky Mountain swallows visit us in great numbers, attaching their nests of mud, (sometimes resembling an inverted retort,) to the eaves of houses and outbuildings.

Robins, and some other birds, will build their nests in the same place, year after year, if the old nests be removed before they return in the spring.

The late Gardner Green's gardener once entrapped a flock of winter birds by baiting them in the green-house, where he kept them until spring. Acting upon this suggestion, an acquaintance of mine commenced feeding birds on a piazza, fronting south, in the month of November, at the first fall of snow. A little millet seed was first thrown upon the platform, which soon attracted large flocks of tree sparrows, snow birds, lesser redpoles, and occasionally a few song sparrows, and still less frequently a solitary white throated sparrow. The fox sparrows came in the fall from the north, and stopped again on their return in the spring. Oily seeds, hemp and sunflower, and the kernels of various kinds of nuts, were next tried, which attracted the

chickadee, or black cap titmouse, and the nut-hatch, and sometimes the downy woodpecker. All of them relish a piece of fresh fat meat; (salt meat is injurious to them.) In the country, the blue jay will come regularly for a breakfast of corn; he is also a lover of fresh meat, but should not be permitted to visit the garden or orchard in the summer, as he is known to devour the eggs and young of other birds. My friend next put up troughs, plowed out about an inch deep and an inch wide, in a solid piece of pine wood about three feet long; these he attached by screws to the outside window frames, placing one opposite to each bar of the lower casement, and one on the window stool; into which he put the various kinds of seeds named above, from

which the birds fed without fear, as they were unable to look into the house, it being darker than their own position, so that the persons in the room could silently approach within a foot of them. Seven kinds of birds have been known to make their daily calls through the winter, and some of them in great numbers, especially at the approach of a snow storm. These little visitors are amusing, and their innocent society helps to cheer us through the winter.

ORNITHOLOGY.

Rhode-Island, Nov. 12, 1849.

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[We recognize the pen of a friend, whose enthusiastic and genuine love of nature has made a long life happy in the indulgence of such studies and feelings as these. We shall be glad to hear from him again. Ed.]

A JOG IN THE FRUIT GARDEN.

BY AN OLD DIGGER.

WHEN the month of November comes, it is worth while to look about a little, and see how you stand in the garden and orchard. You must be a miracle of expertness if you have not failed in some crop or other, or if some tree or plant has not baffled your wits. Well, this being the case, now is the time to look about and resolve, either that you will succeed better next year, or that you will abandon that crop altogether.

So, go into your kitchen garden; if your soil is poor, or worn out and full of insects, this is the very time of all others to doctor it; and here is my prescription, which I have proved over and over again. Clear off the plot of ground to be renovated, and cover it with a good dressing of *fresh stable manure*, with the litter in it. Begin at one side of the plot, and throw up the soil into ridges, digging it about 18 inches deep,

and mixing the manure through the soil as you dig. Here let it lie all winter. The atmosphere and the frost will have a grand chance to do their best in bettering the quality of the soil itself; and the essence of the manure will not only be all taken up by the soil, but its coarseness will be broken down by the spring, so that your plot will be in the best possible order for vegetables when the swallow comes.

If you are troubled with grubs and insects in the ground, (and you must be something more than a "big bug" yourself, if you are not,) then you must also treat it with a dose of salt. Scatter any refuse or coarse cheap salt over the earth before you begin to ridge it up, at the rate of a bushel to the eighth part of an acre—or eight bushels to the acre. Put on at this season, it will do no harm to anything vegeta-

ble, and will thoroughly rid you of these enterprising little gentry, that crawl out of the ground in May and June, and quietly play GUY FAUX to the roots and stems of the tenderest things that the pot boils. Besides, leaving out of sight the virtue of salt as a manure, it helps all *dry* soils amazingly; giving them greater attraction for moisture, and greater power to hold it in dry weather; and that is no mean thing for a crop that gets thirsty in mid-summer.

In the review of your forces at this season, before they go into winter quarters, it is ten to one but you will find, staring you in the face—possibly not ten paces from your door-steps—some excellent old friends, whose acquaintance you begin to be ashamed of, and are sorely tempted to cut at once. I mean some good old *fruit trees*, still very sound and healthy, but utterly refusing, for years past, to bear any good fruit! Possibly they are Virgalieu or Butter pears, Pip-pin or Pearmain apples, whose good name is a thing handed down to you by your ancestors; and you are therefore not a little sorry to *cut* them. Don't do it. Let us have a little talk over these trees.

Did they ever bear good fruit in this soil? "Bless you, yes! Such fair golden skins, and luscious melting flesh, as I seldom see now a-days." How long ago is it that they have stopped bearing such fruit? "Say a dozen or fifteen years." What have you done for them? "Not much—scraped the bark, washed it with soap-suds—spread a little compost over such as stand in the grass. Those that stand in the garden, you know, are in good rich soil; so, of course, they could not want for manure."

This is what my friend says, but I don't believe a word of it—I mean of the last part—that they "don't want for manure." If I were a "Hoosier," or a "Buckeye," I

should say they don't want "anything else." Have not they the same atmosphere to breathe, the same rain to drink, the same climate to enjoy, as when they bore the fine crops of fruit which you lament? What has changed? Nothing; absolutely nothing, but the soil.

Need I go any further to establish this? I hope not. But the soil is probably pitifully *run out*; run out, past the power alone of stable manure to bring it up again. It is run out, as the chemists say, in "lime and the phosphates." But it can be renovated, just as surely as there is manure and lime and the phosphates to be had; and you may set about it now if you please, for this is the best time in the world to begin.

Now to do this well, and thoroughly, will cost from two to three dollars a tree, labor and all included. An old officer of this sort, that has been off duty and on half pay for ten or fifteen years, can't be brought into active service again without squaring up old accounts somewhat; and you must make up your mind to this, or else have no further fruits from the old veterans.

Supposing we commence with a middle aged pear or apple tree, with a sound constitution, which has been sulking for some time past on half pay. Now it is all very well to say that this tree don't want animal manure. Its roots have been in the same place for twenty-five or thirty years, with only a little sprinkling of something stimulating over the tops of the soil, which the grass indeed has pretty much taken to itself, or a slight yearly dressing of compost (if it has stood in the garden,) which the vegetables have devoured. Look at its little, short jointed shoots, and unthrifty growth, and you will see that, first of all, it wants manure.

Very well. Now clear away everything in the shape of trees, shrubs, bushes, or

vegetables of any kind, that stand within 15 feet of the trunk of this tree. Next, bring a good two horse wagon load of fresh stable manure, and trench it under as deeply as the roots will let you, and particularly *beyond* where the roots extend. It is as foolish to put manure within five or six feet of the trunk of a tree, as it would be to pour drink over the back of a thirsty man. At the *very outside of the roots* trench the soil two feet deep, and mix the manure with it,—leaving it rough and loose for the winter; for it is there—at *the outside limit*—that the roots will get a good living again.

But this is not the whole which is to be done. Remember that lime and the phosphates must be supplied; for it is above all, these that old soils grow poor in. It would not do to put them in with the fresh manure, since they would not agree well together, but would go to decomposing one another, instead of making a succession of good dinners for the “feeders”—that is to say, the little fibres of the roots.

But next spring, as early as the soil is dry, you must apply to each large tree, manured in the fall, two bushels of ashes and a peck of plaster, or gypsum; and if it be a pear tree, a half bushel of bone dust. If it is an apple tree, you may substitute a peck of air slaked lime for the plaster. Spread this evenly over the soil that was dug and manured last autumn, and mix it through the whole with a stout three pronged fork. This will bring the soil to a good condition again; and the old tree will speedily commence making new roots,—setting new fruit buds, and, the next season, begin to bear fine fruit again. And this I do not give you from theory, but from actual trial, under the most unfavorable circumstances.

I do not tell you to prune your tree, be-

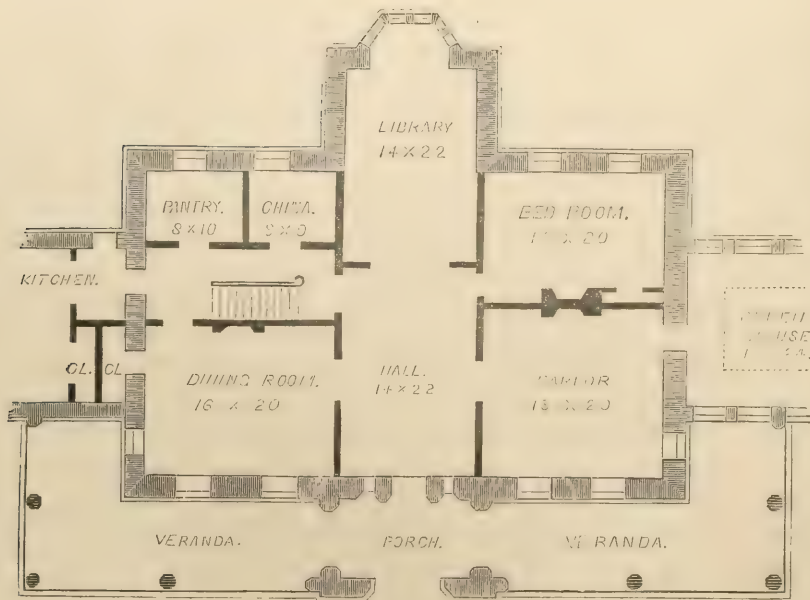
cause I very much doubt the wisdom of it the first year. I would only see that the bark is clean and smooth, and give it a little more *soft soap*, if necessary, in that quarter. After the tree has begun to exhibit signs of feeling the *full pay* you have given it,—say twenty months hence,—then you may, if needful, prune it moderately. When, indeed, the tree is partly decayed, or broken, or full of tangled and cross limbs, I would be a little severe with it at first; but not otherwise.

This is the season when a shrewd old digger should go over his peach and plum trees, scrape away the earth about the bottom of the trunks, and look for that little rascal—the peach worm. If he is there, expecting that “there is a good time coming,” now that he is in such comfortable winter quarters, you will know it by the gum, by which the tree always shows to its natural protector the presence of its enemy. Wherever you see this gum, take your knife, open the bark, and take out the vile grub. If he stays there a few months longer, he will completely circumnavigate the trunk; and after he has been round the world in this manner, there are no more peaches for you. It is a matter of five minutes to a tree; and if you grudge that pains, for rareripes, the grub will take five months at it, and get the better of you.

If you are planting fruit trees, don't be so foolish as to set “tender trees,” such as apricots, nectarines, and so forth, in warm sunny places, on the south side of walls, fences and gardens. Such are, depend on it, the very spots to kill them,—between the extra heat of mid-summer, and the constant freezing and thawings of the trunks in winter. You had better choose a west, or, if not too far northward, even a due northern exposure. The latter is much the best in the middle states.



DESIGN FOR A COUNTRY HOUSE.



PRINCIPAL FLOOR.

Never plant a tree with small roots and large top—when the roots have been made small by the spade in digging—without making the latter small also. There must be some ballast in the hold to carry so much sail on the mast, as an old salt would say ; and you will gain in the health and size of the tree, three years hence, by shortening-back the *ends* of the longest limbs till you have struck a fair balance between the part that collects food and the part that consumes it. Yours, AN OLD DIGGER.

DESIGN FOR A VILLA WITH A CONSERVATORY ATTACHED.

THERE are few more agreeable compositions in domestic architecture than many in the rural Gothic style. As it is peculiarly well suited to a northern climate, and to picturesque sites, it has already been considerably adopted in this country.

Very essential modifications of this style, as known abroad, must be made in introducing it into this country. One of the most important of these, is the introduction of the veranda,—a feature little known in the architecture of northern Europe, but indispensable in a large portion of the United States.

Verandas, as usually seen in rural Gothic country houses, are too light and flimsy to accord with the solid character of the rest of the building. In the present example (see *FRONTISPIECE*,) a very simple and solid mode of constructing this feature is indicated, which is in better keeping with the style, when all is built of stone or other solid materials.

This design is very simple in form, and may therefore be executed at a very moderate cost, for a dwelling of this class. The projecting roof shelters the walls thoroughly from the effect of the weather, which renders it a very suitable plan for brick and stucco construction.

The plan of the principal floor shows a very agreeable and convenient arrangement ; one where comfort and good effect

are combined in a very considerable degree. The stairs being placed in a side entry, the hall, 14 by 22 feet, is left free, and may be considered one of the most available apartments in the house, while opening, as it does, by sliding doors into the library. The whole can occasionally be thrown into one apartment. The library is well shaped for its purpose ; and the long extent of wall, on either of its longest sides, will allow much more space for books, and a much better arrangement of the books themselves, than we usually see in rooms of this size.

From the parlor, a door opens into the green-house, or conservatory. This is placed so as to form a wing on one side of the house, which is balanced by the kitchen wing on the other side. We have introduced this to show how a simple green-house may be treated, so as to give it some architectural character,—as we but too frequently see mere nursery-like glazed sheds, joined to houses otherwise in good taste, the effect of which is never satisfactory. A conservatory, properly so called,—which differs from a green-house in the plants being chiefly planted in the ground, instead of pots,—is the most satisfactory plan for such a structure when it is attached to a dwelling ; because, although the glazed roof is partly taken out in summer, the plants remain, and the interior never has the de-

serted appearance of most green-houses at that season, but is an agreeable sight at all times.

The remainder of the plan of this floor will explain itself. The arrangement of the room and the position of the veranda, are well calculated for a site where there is

a fine view wholly on one side of the house; the library, bed-room, etc., occupying the opposite side, so as to secure quiet. The hall and library are intended to be heated with warm air. The second story will contain five or six excellent bed-rooms, with servants' rooms in the attic.

VAIL'S AUGUST DUKE CHERRY.

By the kindness of the originator, HENRY VAIL, Esq., of Troy, N. Y., we received fine specimens of this new cherry last August, when they were in perfection, and made the accompanying outline and description at that time.

An excellent cherry, which ripens a full month after the cherry season, and nearly three weeks later than Downer's Late,—cannot but prove an acquisition, even to fruit gardens of the most moderate size; and such a fruit we believe the August Duke will prove to be.

This variety, as its name implies, belongs to the sub-acid family of cherries, which the May Duke popularly represents. Its greatest value, therefore, will be for cooking and preserving, though it is also a very beautiful and acceptable addition to the mid-summer dessert. It is of the general appearance and character of the May Duke,—the fruit borne upon the branches in the richest clusters, and their colour a brighter red than that of the May Duke. The foliage also is that of a Duke cherry, and coarsely and doubly serrated.

The fruit ripens at Troy about the 8th or 10th of August, and hangs a good while on the tree. It is likely to supplant the late Duke (*Cerise Anglaise tardive*, of the French,) a fine late cherry; but one which, from its defective habits of growth and

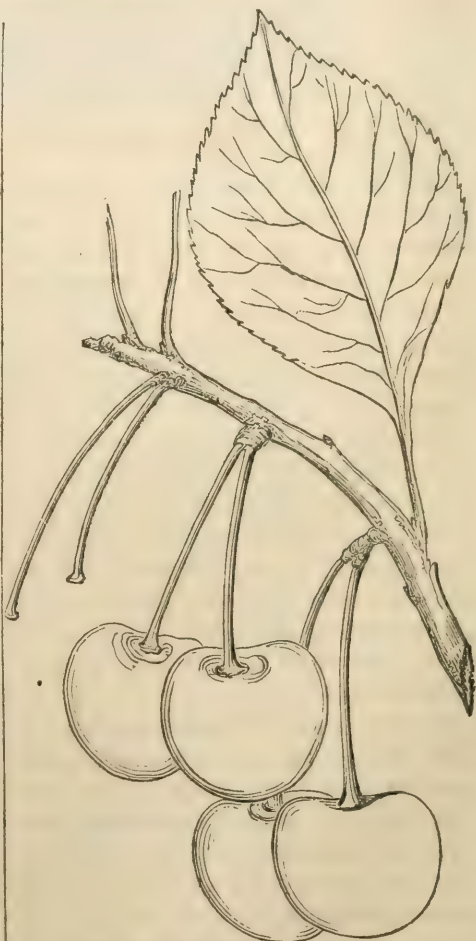


Fig. 90.—Vail's August Duke.

bearing, has never come into general cultivation either in England or this country.

The following is the pomological description of the fruit:

Fruit borne in pairs, and the pairs hanging in thick clusters along the stem; a third larger than the May Duke in size; obtuse heart-shaped in form—very regularly shaped, with the remains of the pistil point at the apex, always a little on one side. Stalk—of moderate length and size, but twice its average thickness where it joins the fruit—is inserted in a rather deep but narrow cavity. Skin—rich bright red on

the shaded side, and of a lively cornelian red in the sun. Flesh—tender, sub-acid, much like the May Duke in flavor. Pit—oval.

We believe the original tree at Mount Ida farm—Mr. Vail's residence, near Troy—is the only one of this variety that has yet borne fruit; and it will probably not be till the autumn of 1850, that young plants will be offered in any of the nurseries. It bids fair to be a valuable fruit for all parts of the Union,—even those where the heart cherries do not succeed well.

BURSTING THE BARK IN CHERRY TREES.

BY L. YOUNG, LOUISVILLE, Ky.

UNDER cover of your broad invitation, I have ventured to take part in the interesting discussion now going on in your columns, upon that "vexed question"—what is the cause, and what a proper remedy, or preventive, for the bursting of the bark of the cherry tree?

I am not so vain as to presume that the objections herein urged, (even if well founded,) and the theory proposed, will settle this question. I am well aware that it is easier to pull down what others or even ourselves may build, than to erect impregnable structures. Still, holding that in a discussion of this sort, the detection of error is a matter second only in importance to the discovery of truth, none will be more pleased than myself to see it made manifest, that my own deductions are unwarranted by facts.

Two gentlemen—Prof. TURNER of Illinois, and Mr. ELLIOTT of Ohio, have written good articles on this subject,—both communicating many useful facts. They seem to agree in setting down the cause

of the evil to the account of luxuriance of growth, but differ in opinion as to the way in which the injury is brought about. Professor TURNER supposes that the outer-ring-bark thickens, and loses its power of expansion by rapid growth; and that, in this condition, acting as a band, it causes the whole bark to burst before it will yield to the swelling trunk. Mr. ELLIOTT thinks luxuriance of growth causes sponginess of texture, and that in this way the tree is rendered susceptible to injury from the cold of winter. Unable to yield my assent to the *modus operandi* of either gentleman's theory, I propose to examine them somewhat in detail.

In the first place, the cause of such an injury must be *some harm-producing agency, ever present when the evil happens; and, when present, always resulting in evil, unless restrained by some counteracting force.* Luxuriance of growth does not answer these conditions; for moderate growers, and trees in a state of debility, sometimes burst their bark. Again, in a few favored spots, even

in the west, the Heart cherry is grown without trouble, be that growth moderate or luxuriant.

It appears to me that trees of very vigorous growth and full habit, are more frequently injured in this way than those of moderate growth; but debility, no less than luxuriance, increases liability to harm. It would seem to me more logical to term both the one and the other, conditions of susceptibility to injury, rather than causes thereof. This, however, is a matter of little importance, and may seem a "drawing of distinctions where no difference exists."

To proceed with the theories of the two gentlemen; and first, with Professor TURNER'S. I think that of all the trees in the forest, field or garden, the vigorous grower would be the last to turn "felo de se," by bursting its own bark by its own agency; and that the Professor's reasoning on this point is founded in error. This will be made manifest by a recurrence to first principles. The trunk of the young tree, at birth, is composed of the arch work of the pith, which gives to it rotundity, and holds its fluids in suspension as a sponge—of the medullary sheath, the parenchyma, and the "outer-ring-bark," or epidermis, all cellular tissue, and composed of medullary matter. As soon as woody fibre is formed in a cylindrical mass around the medullary sheath, the whole cylinder seems divided into a number of nearly equal sections, by radii of medullary matter, running from the circumference toward the centre, and communicating with the medullary sheath. Upon the outer arc of each of these subdivisions, or sections of the woody fibre, rest the bark vessels, as upon a base,—they running longitudinally up and down the trunk on each subdivision, in form of a triangular prism; each pair of prisms of bark vessels upon adjacent arcs, being separated only by the

same medullary ray. So that the skeleton of the trunk of a young tree (as is seen at a glance by cutting a free grower, as the cherry, peach or linden,) resembles a fluted column; the interstices between the flutes of which are filled with fleshy matter, as it were, issuing from the medullary ray. It is thus plain, that there are as many sutures in the live bark of a tree as there are medullary rays. During the growing season, the flow of sap acts as a solvent upon the medullary matter, holding the edges of these sutures in contact; and the annual growth of woody fibre serves as a propelling power to open these sutures, and expand the bark. Surely, then, the greater flow of sap must furnish the better solvent, and the larger annual growth the more efficient expansive force.

That the "outer-ring-bark" does expand, and that freely, upon a thrifty tree, up to the time when the bark naturally changes its character, (the change coming upon most trees about the time they begin to form heart wood,) is a truth I think very obvious. Such a tree has a smooth, glossy, almost transparent epidermis, or outer-ring-bark; and if we examine it closely in the growing season, it will be found that the expansion is so rapid as to rupture the bark; and numberless little interstices will be formed, through which the white fleshy substance, uniting the sutures in the bark, immediately issues, and being hardened by exposure to the air, closes each interstice. Hence, we often see the trunk of the thrifty cherry, or peach, look as though penciled with numberless horizontal white lines, of an infinite variety of lengths.

It is your starveling, in both the animal and vegetable kingdom, whose skin thickens and grows rigid; and I believe that "bark-bind," like yellows, in the peach tree, is a consequence, and not a forerun-

ner of debility; the result of disease, but not itself a disease.

Scarcely less objectionable than the theory of Professor TURNER, seems that of Mr. ELLIOTT, which asserts the doctrine that the wood of a tree is solid or spongy in proportion to its luxuriance of growth. If this theory be true, then that most practical of judges, the wood-chopper, is in error, when he chooses for the handle of his implement a hickory of the largest possible annual growth,—supposing it, for that reason, stronger and more elastic. If this theory were true, then every board from the hands of the polisher should present a motley surface, composed of alternate stripes, more or less solid as the annual growths were more or less luxuriant. Such a theory I think is equally unsupported by the principles of vegetable physiology. In the formation of woody matter, the law of the combination of atoms is fixed and invariable; and to secure its enforcement, the law-administering power is ever present where woody fibre is formed. Thus, if upon a Bartlett stock we insert the Seckel pear, and again, by double work, graft the Bartlett upon the Seckel thus inserted, so that the branches and roots are Bartlett and the trunk Seckel; or, on the other hand, if the trunk were Bartlett, and the upper and lower portions of the tree Seckel, all the power of the luxuriant foliage and vigorous roots of the Bartlett could never make the pores and fibre of the Seckel larger than was peculiar to its species; nor could the dwarfish system of roots and leaves, peculiar to the Seckel, prevent the Bartlett trunk from maintaining the same proportion to the Seckel at the upper and lower points of insertion, which an individual thread of the woody fibre of one variety bears to an individual thread of the other,—because, in every tree, the size of the atoms composing

its woody fibre is controlled by the constituent elements of the medullary matter peculiar to its species. It must, then, be true that the tree which forms a thick cylindrical ring of woody fibre in one year for its annual growth, and a thin one another, forms a greater number of single threads of woody fibre in the former case than in the latter; for as they all touch, and are all of the same size, its additional volume could be acquired in no other way.

The following is the very rude theory I propose to submit, that is to say: The bursting of the bark of the cherry (and some other trees,) proceeds from two causes,—extreme heat, or extreme cold; to each of which belongs a separate set of conditions of susceptibility on the part of the tree. Cold does its work, by expanding the fluids in the tree to a point producing rupture of the parts. A full habit of growth in the tree, a wet location, and saturation of the soil by heavy rains, are circumstances which tend to swell the amount of fluid in the circulation; and if present when the tree is exposed to intense cold, tend greatly to aggravate the force of cold. Great heat—long continued—sometimes does the same work by a partial or entire exhaustion of the circulating fluids by evaporation. Its chief victims are trees of feeble habit, or trees casting their leaves prematurely in summer.

If this theory were true, it would suggest, as a remedy proper for trees already affected, mulching the roots, and wrapping the affected parts with straw during winter, in order to modify the effect of cold, and in order to keep the injured part dry; for when water is admitted freely, those injuries spread year after year. Perhaps the surest guaranty against injury from cold, would be the planting upon elevated ground, or some artificial hillock, calculated to secure a perfect drainage for the roots. This

course would prove a sufficient check upon the evil of over-luxuriance in growth. If the tree affected be feeble in habit, nothing would be more likely to renew its vigor than good treatment, aided by Mr. Down-

ing's method of heading-back or shortening-in. In such a case, slitting the bark or removing the epidermis might be tolerated.

Very respectfully yours,

L. YOUNG.

CRITIQUE ON THE OCTOBER HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

The Leader.—Many thanks to you, Mr. Editor, for teaching us, in these instructive conversations, how to enjoy many excellent edibles out of their proper season, of which we otherwise might not know the benefit; and most particularly the unripened muskmelons, which is altogether new, I dare say, to nine-tenths of us. I, for one, shall try them this very week, and tell you next time "how they go."

But those "Walcheren cauliflowers." How are they different from the fine cream coloured English plant of that name, which we grow so luxuriantly in cool, moist seasons, and which fail almost altogether in dry ones, like the one now passing? Do tell us a little more about them in your next number.

Notes on Foreign Grapes, and Osage Orange Hedges.—Mr. COLT deserves the thanks of every pomologist for telling the exact truth about "foreign grapes" out of doors. I know scores of pains-taking men, who have tried them as faithfully as he has, and with no better success,—among others, foreigners themselves, who imported great quantities of them in wide variety, and went enthusiastically into their cultivation, but were forced at last to give them up in despair. The glass vinery is the only thing where they will succeed in America. To be sure, I have known, now and then, a Black Hamburg or a Sweet

Water, or, few and far between, a Golden Chasselas, that flourished for a few years against a city house wall, and bore good fruit; but, as a general rule, they are a failure. None but native grapes can be depended on for American culture in *open air*.

The Osage Orange is not reliable for hardness north of latitude 41°. It is a beautiful shrub, ornamental in the lawn, and, when in a very favorable situation, will make a compact and beautiful hedge in a *show ground*. But the Buckthorn is better. Still, best of all, as we shall finally prove, will be the wire fences. I am surprised that none of your correspondents talk upon this subject. Pray let us hear from some of them.

The agricultural papers are getting up quite a discussion about wire fences. We have much to learn in this country on fencing. *Economy* is an important element in all matters of this sort; and when ornamental, as well as cheap, which I believe they can be, they cannot fail to be widely introduced.

Remarks on Bark-bound Cherry Trees.—Mr. ELLIOTT, as usual, is full of sound sense on this subject. Located, as he is, in one of the most favored fruit soils and climates of North America, he has every opportunity of testing the proper cultivation of fruits. I hope to see this subject pursued

New Remedy for the Curculio.—Very good, my dear MR. GABRIEL; but where are the “three or four quarts of guano,” and the “two bushels of iron shavings, which cost nothing but the carting,” to come from, to people beyond reach of guano cargoes, and outside of your New-Haven and other New-England machine shops? No, no. We must have something more “comeatable” than such materials to save those who have nothing of that kind at hand, as ninety-nine of every hundred plum-growers have not. It is gratifying, however, to know that a preventive for the curculio is at hand, for the benefit of those who are able to apply it. I fear an *absolute specific* for this evil is yet far off. Till then, we must apply the pigs, the chickens, and such other remedies as are within reach, and have proved efficacious in their several localities.

Disadvantages of Deep Planting Trees.—I had supposed that no one, be he ever so green, in this day of intelligence, would be so stupid as to plant his trees deeper than when in their natural position in the nursery or the field. No man ever ought to plant a lawn, a garden, or an orchard, who is not possessed, in a tolerable degree, of the *practical* knowledge of the growth of trees, unless he can employ one whom he *knows* is a *practical* and a *successful* planter. It is a subject on which, if one once gives his mind to it, the proper knowledge can easily be acquired; and if he chooses to employ every pretender that comes along, why, let him suffer, and buy his wit as he may. Imposters of other kinds, as well as in gardening, are abundant all over the country; and it is an easy matter to find out whether one be good for anything or not before employing him in really responsible operations. If a proprietor chooses to take an easier course, and permit any one to labor for him merely on his own “say-

so,” he will be sure to earn his wit dear enough before he gets through with his labors.

Wrens the best insect destroyers.—J. J. S. Give me your hand—aye, both of them. I wish I knew your name. You breathe the true spirit of WILSON and AUDUBON, and all others who love the dear little songsters that cheer us with their melody, and relieve us of the thousand pests which mar our pleasure in rural life. How instructive the dear little things in their habitations, and how useful their little labors to any place they occupy. Every body should try to accommodate not only the wrens, but every other bird which feeds on noxious insects, in all parts of his grounds. We know very little of the good that is done by these friendly companions, and palsied be the arm that would lift a thing to destroy them. Some of the sweetest associations of country life are connected with the songs of birds, and their tiny nests, and their habits, and their migrations to and from us, at the time and return of the passing seasons. Tell us more about the birds, my friend. I shall always be obliged to you for manifesting so much kindness of spirit, as well as for the instruction so pleasantly imparted.

Thoughts on the Flower Garden.—A capital extract from the London Quarterly; and given too in the earnest and enthusiastic vein of WALTER SCOTT, or Professor WILSON. And the writer, a right down high tory and churchman too, as every one knows Sir WALTER to have been while living, and the stalwart Professor to be now—may his honest shadow never be less! Puritan as I am, in every pore of my body, I love and admire the honest, hearty, *Kingly* pride of the English, in praise of their own beautiful land. To England are we indebted for the loveliest delineations of rural life and rural scenes, and no where else on earth is

genuine country life so well appreciated and understood as there, barring even the abuses of their systems, both social and political, which carry with them, after all, much that is very good, and for the English themselves, a great deal that is indispensable. Country life can never be properly appreciated unless one has a deep, constitutional, natural love for it. Many affect it, on whom it sits most awkwardly, yet none but those "who are natives there, and to the manner born" can enjoy it in all its beauty, its purity, and devotion.

Nor am I at all sure that if England enjoyed the brighter skies of America, would her people be so deeply imbued with the love of *home*—none but the good old Saxon word gives the idea—as now amid their fogs and damps. A better climate, unquestionably, we have for the development of our fruits and vegetables; but we lack that intuitive love for country life which they possess; and though we can enjoy with less labor, a greater variety of earth's choice productions than they, we are less careful to cultivate them highly. And never, until we study the *philosophy* of English rural life thoroughly, can we possess that high satisfaction which they enjoy in its indulgence. How beautiful the picture which ADDISON has drawn of Sir ROGER DE COVERLY, amid his ancient trees, his rippling brooks, and his quiet old Hall, seated in the midst of his ancestral acres. And who that has read the delightful sketches of our own IRVING on country life in England, but rose from their perusal with an admiration, if he could not fully appreciate it, of the spirit of a people who could give such charms to an austere climate, a dripping sky, and a dim atmosphere? We must yet come to a better understanding of these things in America, before we get all things right.

Vinery at Clinton Point.—A downright

sensible structure. Mr. VAN RENSSSLAER has gone into this matter most understandingly. A man of wealth and leisure can have no more elegant indulgencies than are here delineated. The plan seems perfect. Sun, air, protection—all the requisites for the production of perfect fruits are comprised in the mode here described, and as cheap withal, to appearance, as the subject will admit. Can you not, Mr. Editor, ascertain the cost of this structure in its different parts, and give it to us? Such items are a great help to those, yet novices in these affairs, to guide them in their erections.—What kinds of glass are used?—what sizes are the posts? A few hints of expense, &c., are always valuable to us. What is the capacity of production in this vinery, when filled with well matured vines? And cannot grapes thus grown be profitably cultivated for market near our large and wealthy cities? Tons upon tons of the unripened Malaga white grapes are annually imported into our large cities, and sold at 30 to 50 cents the pound, not to be compared in flavor and appearance to those produced in our cold vineries, where I have often seen them weighing four or five pounds to the bunch. Mr. ALLEN, of Salem, has treated largely of this subject, but his book is rare, or not at all to be found in many of our towns and villages; and a few practical directions with items of cost would be acceptable to many of your readers. [Perhaps Mr. VAN RENSSSLAER will oblige us with some details. ED.]

The Mountain Ash as a stock for Pears.—Novel, but not altogether original. This is one of the "Experiences" that I like. Here are *results* curious in themselves, and instructive, but not quite satisfactory; nor can I believe that the ash is the proper stock for growing *reliable* pears. It is exceedingly annoyed at times by the borer, and in a

country where pear stocks can be so easily reared as in ours, the surest way is to follow dame nature and cultivate the fruit on its own bottom.

Saco, in Maine, however, is a high latitude, greatly subject to the blasts of cold northeasterly winds, where the Mountain Ash flourishes in high luxuriance, and the Pear stock may not. If so, by all means let the trial continue, and raise pears on the Mountain Ash if nothing better can be done.

Hints for the Fruit Garden.—Excellent and timely. How many thousands of bushels of choice fruit, after great pains-taking in cultivation, are utterly lost for want of proper materials in gathering and care in preserving them. This article should be well read, and put away for annual reference by every fruit-grower.

Rivers' Nursery.—No doubt a most interesting and beautiful sight. I have often wondered why our nurserymen, many of them men of fine taste in landscape delineation, do not study more of the beautiful, and the picturesque in laying out and planting their grounds. Such dispositions may be made of the different fruit and ornamental trees, shrubbery, and flowering plants, as would make them exceedingly attractive as places of resort, and thereby greatly extend the sales to their proprietors. Let us have a reform in these things, and not have our nurseries, as too many of them now do, look like so many corn-fields or bean patches; but tasteful, inviting, and expressive in part of the purpose for which the plants with which they are occupied, are intended. It is one most interesting feature of this truly

delightful profession, that our nurserymen now embrace many men of education, taste and refinement. Let this improvement continue, and by their annual congregation in conventions, and mutual and friendly intercourse, they will ere long arrive at that position which their useful calling should command.

Advertisements.—Right glad was I to see such an array of fruit and ornamental trees on sale in the different nurseries; and what a growing taste in the public do these notices indicate, as compared with thirty years ago, when Messrs. PRINCE and BLOODGOOD of Long Island, were the only prominent nurserymen of this great State. Now, millions of trees are yearly advertised, and millions yearly sold and planted. But how many, think you, of those millions sold and planted, live to bearing and maturity? I hardly dare name twenty-five per cent. of the whole number. Ignorance, carelessness, neglect, are the prolific causes of most of this destruction, while the appropriations of planted grounds to other purposes in a rapidly improving country like ours, particularly in the vicinity of our large towns and villages is another cause. Nurseries therefore, will be kept up, and the increasing taste for cultivating fruits, and ornamental trees, and shrubbery, on the part of the public, will not only sustain, but augment the demand.

Go on, gentlemen nurserymen. No profession among us promises better returns than yours, and may you all be as successful as your merits shall deserve.

JEFFREYS.

ON GRAPE VINE BORDERS.

BY DR. STEVENS, NEW-YORK.

It is well known that plants by repeated pottings, grow with extraordinary energy, and that pots of too large a size, and those not porous, are injurious; that a cutting placed near the inner edge of a pot does better than when placed nearer to the centre; and finally, that a given quantity of earth in a pot will support a much larger plant than the same quantity in an open border. Is it possible to unite the advantages of potting into an open border? This is the problem I propose to discuss, and if possible to solve. On what do the advantages of porous pots depend?

"The natural soil which is most congenial to the growth of the vine, and to the perfection of its fruit, in this country [England] is a light soil, sandy loam, not more than EIGHTEEN INCHES IN DEPTH, on a dry bottom of gravel stone, or rocks."—Hoare, p. 44.

You describe the grape border at Clinton Point, as being nearly 3 feet deep. Is Mr. HOARE's practice wrong? Will it be said, "Make the soil deep enough, if the vines are not benefited by sending their roots deep; they will not be hurt by having a rich, deep border, for they will seek the place which suits them best." Not so; they know their present wants, but do not know their future dangers. They may come so near the surface as to be injured by excess of heat and dryness, or go so deep, as to be out of the reach of due heat during the next spring, or where the water is too abundant and stagnating.

I venture to offer my opinion, that Mr. HOARE's practice is the best for this country, as well as England. At the depth of 3 feet the heat of spring does not penetrate

within a shorter period than thirty-two or three days. "If the bulb of a thermometer is buried, for example, 1. m, 3, (i. e. 48 inches,) in the ground, the minimum [of heat] will take place in March, the *maximum* in September; that is to say, two months after the *minimum*, and the *maximum* in the air."* My own observation of the temperature of the earth below the surface may nearly coincide with those here quoted. The results are greatly affected by the falling of water, its quantity and its temperature.

But although Mr. Hoare's practice seems to me right, his doctrines are by no means correct. "One of the principal causes of grapes not ripening well on an open wall in this country, is the *great depth of mould* in which the vines are suffered to run, which, enticing them to penetrate in search of food below the influence of the sun's rays, supplies them with too great a quantity of moisture." * * *

"It is not mere *earth* that the roots require to come in contact with, but *air* also, which is as necessary to them as to the roots and branches."—p. 45.†

This view of the subject is not correct. The light of the sun's rays does penetrate more than one, or at most, two inches. The heat of those rays affects the soil in 24 hours to the depth of 6 inches, more or less, according to the caloric, porosity, capacity for heat, and conducting power. Trees grow perfectly well in cities with their roots under stone flagging, impermeable to every influence from the sun and air,

* Keamtz Meteorology, p. 206.

† Mr. Hoare deprecates the urging of vines too high when their roots are cold. Might they not be warmed by water artificially heated?

but not of heat. What use do the roots make of air when they get it? Air at the roots of plants is as much out of place as in the stomach and bowels of animals. What little air is about the roots of plants, and in the alimentary canal of animals, is only useful as an agent of decomposition.

The greatest disadvantage of too great depth is the comparative stagnation of the water, which is the vehicle of the food to the roots. This is the disadvantage of oversized pots, and the contrary condition is the source of the advantage of small pots. An animal receives its nourishment by the passage of its food through its stomach and bowels, which have an absorbing surface like the roots of plants; the difference being that the absorbents are on the outside in plants, and on the inside in animals. Animals, it is true, decompose their food. Plants only select it. What constipation is to an animal, stagnancy of water is to a plant—as plants absorb their food as it is brought to them by the movement of water, containing carbonic acid, ammonia, and mineral ingredients. This movement is caused by gravitation when the ground is saturated, and by capillary attraction, which results from the evaporation that takes place from the surface. It is easy enough to convey nourishment in the depth of the earth, but if it stagnates there, it is of no use. The problem, then, resolves itself into this: to promote evaporation, and to convey heat deep in the earth. The mode in which I propose to effect these objects is, to pass porous drains communicating with the external atmosphere through the grape border. To promote evaporation, the air may be made to enter one aperture, and pass out at the other, by elevating one end of the tubes a few feet above the other. The same end may be attained by sinking one or more brick cisterns, laid without

mortar, and about 3 feet deep—open of course on the top. In this way I think to give to an open border the most essential advantages of pots.

I need hardly add that the *evaporators* should be closed in winter on the same principle that a vine border is protected by a covering of straw, or muck, or manure. The plan proposed is applicable to other plants beside vines; and while it leaves them the full benefit of heat and evaporation from the surface, gives them a less uncertain supply of both, and more complete security against frost and drouth. In what respect is it better than a border resting upon rocks, stones or gravel? Obviously for the reasons above given, and their protection from cold; and further, because it prevents the great waste of the richness of a border so situated, where a drenching rain leeches the soil, and carries its nutritious principles below the action of capillary attraction, which alone constitutes the difference between the open soil and a leech barrel. It gives in fine, two warming and two evaporating surfaces, instead of one; the artificial surface being in some respects better than the natural.

The nearest approach in nature to the condition of the roots of vines, in the artificial situation in which I would propose to place them, is a vineyard on a hill side with porous rocks, especially such as contain appropriate nutriment. Here there is constantly descending water, no stagnation of it, and withal secured against both drouth and cold in the water and heat which the rocks slowly give out. On a very steep acclivity, many of the advantages I have sought in the plan here sketched, might be attained by a succession of terraces with walls of brick, lime stone, or even sand stone. If the descent should be at as large an angle as 45 degrees, the

evaporating and warming surface would be exactly doubled. Considering how important an agent *bottom heat* is known to be by every gardener, it is remarkable that temperature as affecting the roots of plants in open borders is so little regarded. One of the closing paragraphs of the instructive Diary, furnished by Mr. Johnson, of Lynn, and published in your volume, on fruit, says: "To insure a good crop of grapes, we are satisfied that they must have plenty of heat, plenty of air, plenty of moisture, severe thinning of the branches, severe thinning of the berries." A proper temperature at the roots might have been added. When success has been attained, a due degree of heat has been afforded to the roots by means designed for other objects. Until we know the temperature which the roots of a plant most delight in, we do not know, theoretically at least, the true method of cultivating it in the highest perfection.

As to depth, there is no limit to the degree of it at which the roots of plants may not thrive, save that of drainage and suitable temperature. The roots of the willow go to the surface of deep wells. The vine sends its roots by the side of deep sinks and cess-pools.

Astoria, 24th October, 1849.

P. S.—I have written a long letter; my only object when I sat down was to ask you where I might find minute practical directions for the hybridizing of vines, our native with the foreign, for example.

REMARKS. Our esteemed correspondent's remarks on vine borders are highly interesting, but he is somewhat led astray by foreign writers on this subject.

MR. HOARE'S excellent work on the vine is intended for a climate as different from that of the United States, as a dry sponge is from a wet one. The great practical difficulty with the soil in English gardening is, to make it fertile and yet dry—for numberless evils grow out of the accumulation of water in deep soil, in a climate where the sun is not powerful enough to drink up the excess of moisture, or to fully ripen the wood of trees or plants from a more southern temperature.

Here, it is quite the contrary. The sun is so powerful that a grape border of the usual width, only 18 inches deep would soon cease to supply sufficient moisture to grow the finest grapes. The best proof of this is, the fact that at Clinton Point even, with border 3 feet deep, it is found necessary to water the border frequently in mid-summer—lest the vines should suffer for the want of moisture.

Wherever the sub-soil is not sand or gravel so as to afford natural drainage, there Dr. STEVENS' plan of thorough draining the borders artificially, is the correct one. But we think every practical grape grower, in this climate, who succeeds in getting large crops of very fine fruit, will agree that deep and rich borders are indispensable, and that Mr. HOARE'S system in this respect naturally fails in America.

We find, on examining the admirable meteorological table of the temperature of the soil at Albany, given by Mr. SALISBURY, in the State Agricultural Report for last year, that the maximum temperature of the soil 4 feet deep, there is in the month of August. ED.

NEW FRUITS OF SOUTH CAROLINA.

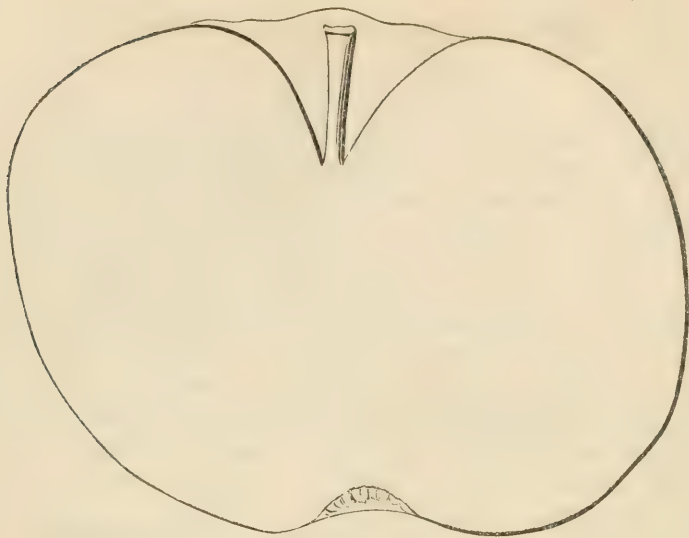
BY WM. SUMMER, POMARIA, S. C.

A. J. DOWNING, Esq.—For fifteen years past I have amused myself with the introduction of many of the best fruits known to American Pomologists. When I commenced, there were but few choice fruits known in our State, and I was forced to throw myself on the veritable honesty of vendors of fruit trees. Upon testing many trees, I find that I have been frequently imposed on, and am indebted to your valuable work, "The Fruits and Fruit Trees of America," and its monthly successor, "The Horticulturist," for a key to set me right as to proper names. I have the same fruits frequently under half a dozen different names. I have had the various success attending all beginners, but hope that I have remarked in my experience sufficiently to point out many things hereafter, for those who may follow me, whereby they may avoid difficulties under which I have labored. I hope to be able, at no distant day, to give you an account, from my own observations, of such Northern and European fruits as succeed well in the South, (which we shall be heartily glad to get.—Ed.,) and in order to further the extension of fruit culture in our "sunny land," take the liberty of introducing, through the medium of your journal, a few of my Seedlings, which I have tested, and for our region am satisfied with. I may add, that I have so often been received by descriptions and praises of new fruits, that I am exceedingly loth to claim for my seedlings more than ordinary

qualities—but so many of my experiments have turned out as abortive as the attempts of parsons to *raise* steady men out of their sons, that I think I will do no one ill in sending these the choicest results into the world of trees, with my name attached to them; so that if I am mistaken in their excellence, the blame of their sponsorship may rest on me. I have many valuable seedling fruits, but my observations have not been so thorough on some others to venture to make them public.

APPLES.

No. 1. FERDINAND. Came first into bearing in 1848, and has fruited again this season. It was produced by Mr. ADAM MINNICK, near Pomaria, and I have named it in honor of his father. The fruit is large, oblate, and irregular in shape; colour, pale greenish yellow; basin moderately shallow; calyx open; stalk thick, medium length; flesh creamy yellow, extremely tender. In season from November till March. Its habit is not properly determined, but young grafted trees have fine upright heads, and are of moderately vigorous growth. It is in my opinion destined to become a valuable and indispensable apple for the Southern and Middle States. During the two seasons that it has borne, the fruit has been remarkable for uniformity in size and similarity of appearance. I send you a drawing which is correct, and of natural size.

*Ferdinand Apple.*

No. 2. AROMATIC CAROLINA. This is a most remarkable apple, originating here, and deserves a place in every collection. It is large oblate-conical, pale red, slightly streaked, with a heavy bloom, wide basin, calyx open. The tree is spreading with horizontal branches inclining to be pendant, short fruit wood, with abrupt terminal buds. The habit of the tree is similar to that of the *Sine qua non*, and once in bearing never requires pruning afterwards. Flesh, exceedingly tender and melting. The flavor is highly *aromatic* and excellent. This is the highest and best flavored apple I have ever tasted. In season, last week in June and all July. It is an abundant bearer, *first rate* quality.

No. 3. FIXLIN. Originated here. It is a large apple, oblate, but less conical than the Aromatic Carolina. Beautiful red, streaked, of fine sub-acid flavor. It is a fine drying apple. The tree forms conical heads, with strong horizontal branches, and is a vigorous grower and abundant bearer, producing regular crops of most perfect marketable fruit; begins to ripen in

July, and continues maturing its fruit till September. It is a valuable apple for stock, and trees of this variety are hardy and vigorous. The original tree is fifteen years old, and is fully twenty-five feet high. Second rate quality of Southern summer fruit.

PEARS.

No. 4. "UPPER CRUST." A new seedling pear, which has fruited here the four past seasons, in size and shape much resembling Dearborn's seedling; of a green colour, covered with distinct, irregular russet blotches. The tree is pyramidal in shape, with well matured switchy limbs and grey coloured bark. It is buttery and melting; in season early in July, and ripens well in the house. Its flavor is much superior to any early pear I cultivate, and all who have eaten of it, pronounce it first rate. It is perfectly free from disease so far, and I intend propagating it largely, as I believe it worthy of dissemination, especially in the South.

PEACHES.

No. 5. Mrs. POINSETT. This is a re-

markably fine peach, ripening here latitude 34 deg., on a warm clay soil, from August 1st to August 12th. It is a cross between the Blood cling-stone and some fine variety of yellow free-stone. The stone is very small, and the flesh partially adhesive. It is a heavy bearer with me, and is very hardy. The trunk is erect, with delicate fruit limbs, inclined to be pendant; leaves of pale ashy green, with globose glands, and single at the fruit buds; wood, of light green; fruit large and globular, with a regular suture, terminating in a depression at the bottom end; skin yellowish, inclining on the exposed side to a brownish tint, with traces of red veins over the entire surface; flesh of rich yellow, juicy and melting, and of first rate quality. I have named it in honor of the lady of my friend, the

Hon. J. R. POINSETT, who is a devoted friend of horticulture.

No. 6. POINSETT. A prolific cling-stone peach, heavy bearer, and ripening ten days later than the above, of extraordinary size. Trees of strong upright growth, with a peculiar habit of three leaves to the fruit buds. The centre leaf is furnished with globose glands, whilst the side leaves are invariably without glands, and so slightly serrated as to be scarcely perceptible; centre leaves very large; side leaves about one-fourth their size; fruit large, of ruddy yellow colour, roundish oval, with a pointed projection at the end; flesh firm and juicy, of a delightful sub-acid, and one of the best peaches adapted for marketing.

WM. SUMMER.

Pomaria, S. C., Nov. 9, 1849.

THE CAMELLIA JAPONICA.

BY GEORGE GLENNY.

(Concluded from the last number.)

THE CAMELLIA HOUSE.

A common greenhouse with a north or east aspect will do for Camellias, though we prefer the south for everything, and a shade to counteract the influence of the sun upon those subjects which did not require it; however, there is less trouble when the aspect is the other way. When it is time to remove the Camellias to the conservatory, or the house in which they are to flower, they must be taken up singly and examined, first, as to the drainage, next as to the form and position of the branches, to see if any should be taken off, or shortened or trimmed in any way. Also some of the branches may require tying a little, one way or the other, to help the shape of the shrub or plant. The surface of the soil may be stirred as low as it can be done without disturbing the fibres, and all that can be loosened may be thrown out, and

fresh compost be put on the top, to fill up the pots, which should be cleaned from any mud or dirt that has accumulated on them while out of doors. They may then be placed in the house, giving such ample room, that they shall not only not touch any other plant, but also have plenty of free air; because there is no longer any doubt that to the crowding of the plants in their winter quarters half the evils that assail them may be attributed. They should also be occasionally turned round, to prevent their growing to one-sided specimens, which they soon would if one side only were always to the light. There are many persons who prefer pits to greenhouses for winter quarters; but they are so ornamental, even without their bloom, that most people want them in their greenhouses and conservatories for the sake of their general appearance; and, again, it hastens their bloom. If they are wintered in pits, it is

better to trust entirely to the covering against frost rather than risk fire heat of any kind ; but the covering must be effectual, that is to say, thick enough to prevent the frost penetrating. As the buds begin to burst and show colour, they should be removed to where they are to bloom, whether it be in the drawing-room, the conservatory, greenhouse, or other place ; and this in a mixed collection, will be from November till April, according to the temperature in which they are kept from the time of first housing them. Nothing can be easier than to keep up a respectable bloom through these months. In general, it will be found that at the end of the autumn, when they have to be housed, there are some much forwarder than others, without any pains having been taken to make them so ; in this case, you may make up your mind either to bring them in bloom all together, by placing the forwardest in cold pits, where they will be retarded, and the backward ones into the warmer houses, to bring them forward ; or they may all be served alike, and so keep up the long succession of bloom ; or they may be still widened in the period of their bloom by putting some of the forwardest where they will be still hastened, and so obtain bloom much earlier than they would come in the ordinary way, although set and swelled earlier.

The varieties of *Camellia* amount to several hundreds, but very few have attained anything like perfection. The *Althea* floras are confused in the centre ; the *Anemone* floras are little or no better. The only sorts that are worthy at all of cultivation are those which are improvements upon the double white and double red, those of which the petals are symmetrical, whole upon the edge, high in the middle, and approaching to a circular outline. Nevertheless, the plant is in itself handsome, that even a bad flower is passable and will always find its admirers. Colour is a grand object. Stripes and blotches are run after ; and these characteristics carry some through a large circle of buyers when they have no other quality but that to save them. Tricolor, a semi-double ; *Doncklaari*, a semi-double ; and many others, which have neither form nor substance to recommend them, have nevertheless been purchased at a large price and

in great numbers. They look rich as the flower first bursts through its green covering, but are nothing as soon as their flowers are fully developed. The list of the varieties annexed comprises the best and most varied ; but it is no use to pretend they are one-half of them good enough to please us.

JANUARY.—The plants in pits are to have all the air that can be given on mild days. It is as well to keep them somewhat close in cold winds, but when the weather is pretty calm, the glasses may be wholly removed ; but however warm the evening, it should not prevent the necessary precaution of covering up. In the greenhouse, you are necessarily guided by other plants as well as the *Camellia* ; but the more air they can have the better. A little more care must be used when they are being forced, or are put into houses with higher temperature, such as graperies, conservatories, and forcing-houses. Some plants may be properly taken to houses of this description to hasten the flowering. Attend to watering, but do not give them too much ; they ought not to be watered until the moisture is greatly lessened ; then see that the drainage is good, and water the soil all through, for nothing is so deceptive and so dangerous to plants as to wet the upper part of the soil without soaking it all through. The lessening of the quantity of water in winter time for these and all sorts of plants, is to be by less frequent applications, not by giving a less quantity when they are watered. Grafting may be done this month with plants required to be rapidly propagated, and especially the grafting with a single bud and its wood ; and any that indicate a disposition to grow may be done before they get too forward. This applies particularly to sorts with no bloom buds ; for having no flowers to take the remaining sap, branches will begin to grow the sooner.

FEBRUARY.—Those plants which are blooming may be placed where they are wanted to flower. If in the drawing-room, or any of the rooms in a dwelling-house, remember that they are to have no fire in the room to alter the temperature, as they will throw off their buds at any sudden check or any rapid excitement. Give air to them in greenhouses and pits as far as you can do it, and be careful that they are

covered from frost at night. If the frost last all day, they ought not to be uncovered, and the greenhouse, although it may require a little heat, must have it carefully administered, as sudden change and too much warmth would cause the buds of the plants to fall, and set them prematurely growing; besides which, all other greenhouse, and especially hard-wooded, plants, are the better for being kept very cool so that there be no frost. Grafting, inarching, or budding may go on partially with all such plants as are not required for bloom, or from which cuttings can be spared for the purpose. The stocks that are starting into growth are the proper ones to use; and by examining the whole of them, there will be no difficulty in finding some upon the move: if not, they should be put into the grapery, or some other house, with a little warmer temperature, and not used till they are started; nor should the grafts be cut off until the stocks are ready for them.

MARCH.—The blooms are now coming out of the early ones, and, as in last month, should be removed to where they are wanted. The conservatory has not a handsomer ornament than the *Camellia japonica*; and where there is one kept up at all, everything in flower should be taken, but especially this beautiful tribe. Whether it be here or in the dwelling-house, pay due attention to watering which as the buds swell and flowers grow out must be more frequent, guided however by the state of the soil in the pot, and not by the period that may have elapsed since the previous watering. Those in pits require equal attention. As the buds swell, water will be more often required, and the drainage must be well examined, to see that none of the holes at the bottom of the pots are stopped. This, however, is soon indicated by the soil continuing moist when that in the other pots is comparatively dry. As the buds get nearer bursting, the plants should be removed to where they will be seen, and in the height of bloom they ought to be shaded wherever they are, as it will greatly prolong the period of their beauty. This month many will be in perfection. If the stocks are generally shooting, get grafts or buds, for the purpose of taking advantage of the state in which they are most

certain of success, for it does not signify half so much whether the bud or graft is moving or not. All the grafted and budded stocks must be placed in the gentle heat as soon as the operation is performed; and as the tops of the stocks are cut off for bud-grafting, let them be put in as cuttings, to bring forward as stocks hereafter. While upon the subject of grafting, we may observe that all the shoots which are of no use on the blooming plants may be taken away for the purpose of grafting or budding; so also may long shoots with no bloom be shortened, if it will improve the form of the plant. Weak shoots, which come out here and there on matured plants, and give no hope of future strength to match the rest of the growth, may nevertheless, be good for grafts, as the want of health and strength is generally not in the shoot itself, but at the base from whence it proceeds; and the same little branch on a healthy stock would be as strong as any other. It is at this season, before the shoots have actually begun their growth, that plants should be trimmed into form; only omitting till they have bloomed those which are set for flower, and which may be as ugly and as out of place as any, for it is always desirable to wait for these until the flowering has passed. Cuttings of stocks may be put in. We have recommended two or more eyes—but we are informed that at a nursery in Kent the cuttings are used with only one joint above the surface and none in the ground, so that the under part, from whence the roots start, are not cut to joints at all; but even this can only be desirable when cuttings are very scarce.

APRIL.—The blooming season is now rapidly passing away, and the beauty of the plants fades in one after another. It will be well to look among them to see if there are none that would be better changed to a different sort by grafting or inarching with better kinds; in this case, it depends entirely on the form of the plant whether you work it close down below the branches, or use some of them for the sake of getting a plant sooner. If there be several branches which go out from near the bottom, a piece might be worked pretty close home upon all such as would help to form a good specimen; but as in general the sorts we

should most likely work would be scarce, there would be more likelihood of our having no grafts to work or spare, and the best way would be to work the stock as low down as possible. The whole vigor of the plant is then thrown into the single graft, which grows very strong and pretty rapidly; in fact, very much in proportion to the age and condition of the stock. What we mean by this working of plants that have bloomed, is this:—Perhaps among our collection, we have too many of one sort; the most ugly of these could be thus changed to another. Suppose we find sorts that we do not like; work others upon these stocks. Again; if anybody fancies he should like several sorts upon one plant, the best way then is to cut back all the branches, so as to form a skeleton of a plant, and work each branch pretty close, say from two to six inches, according to their situation, and the form it will make; many will leave part of the old plant to answer for that sort, but it is far better to serve all alike. Some of the favorite plants are bare in parts, but otherwise handsome; this can always be improved by grafting pieces of the same variety on the bare or thin parts of the plant, and thus making new branches where they are wanted. It is in such cases desirable to inarch the new branches, because you can by such means have them of any size that is best adapted for the purpose. See to all the budded and grafted stocks, and prevent the stocks from growing, by rubbing off any buds that may chance to come below the worked part.

MAY.—The bloom being now virtually over, prepare for the growth of the plants. Shift all of the plants that have filled their pots with roots, without disturbing them any more than you can help; one inch all round will not be too much to increase the size of the new pot over that of the old one. Keep the ball entire; remove the surface a little, and some of the crocks if they will come away without disturbing the roots, but not else. Trim the plants in the form best adapted for making handsome growth. Some branches may require to be stopped by merely removing the end bud; others may want the side shoots, or extremely vigorous shoots, to be shortened or altogether removed; but allowance must be made

for the probable growth of each stock, because you must calculate on leaving all on that grows, on account of the bloom always setting at the end of the joints. After shifting and trimming, water, to settle the new soil to the old ball, and place them under glass for a day or two, well shaded, but not uncovered to give air for a time. They may then be placed where they are to grow. This should be in a house or pit, by themselves, where there is little or no change of temperature, not affected by the sun, which must, either by situation or artificial means, be kept from them, except mornings and evenings for a little while; and here their growth should be without a check, which alone causes these plants to become bare of bloom. When grown in perfection, they should set for bloom at every branch. Use all the stocks, and complete all the grafting and inarching; and let all the plants under that operation have a little assistance by way of temperature—fire, or water, or tan heat, to keep them going during the night, and the sun kept off during the day. Now put in all the cuttings you can make for stocks, by cutting in all the lateral shoots from the unused stocks by you, and by topping them all, and put them into heat as directed. The stocks may be placed in the shade, out of doors, on some hard bottom to prevent the roots striking through the pots into the ground, and worms from getting into the pots. Look well to watering; repot the stocks that are not used for propagation, that they may be kept in good growing condition till wanted.

JUNE.—The bloom finished, do all that has been left undone from last month's directions. Look to all the grafted and budded and inarched plants; wherever they appear united, take the bandages carefully off to examine, and tie again somewhat more loosely. It may be unsafe to trust them without any tie at all, and it impedes their growth to continue the tight bandage on after they have united. Where inarching has been done, the ties of those which appear to be united should be undone and tied up again. You may also cut the grafted branch half way through, towards cutting off altogether, and cut off the portion of stock that is above the graft altogether; but in all these things, regard must

be had to the time the operation has been performed and the appearance of the growth. In untying the bass matting with which the grafts have been bound together, begin so that if you, on taking off two or three turns, find the union not complete, you can make fast again; though in general, if well fitted, in six or eight weeks from the time they are done, they will be found joined well. If the operation is not performed neatly and the joint made to fit very close, it cannot make a good union, and will be much longer in making any union at all. All the plants will require constant attention as to the watering, for while making their growth they absorb a great deal. The stocks must be looked to as well as the worked plants, for although out of doors, and where they can get all the rain, it will not be sufficient moisture, unless it be a very dripping season. Besides, if the drainage is good, three days after a whole month's rain would leave them as dry as if there had only been a day's rain. Therefore, whenever there are plants in the greenhouse, conservatory, or open ground, they must not, on any account lack water, for that is a serious check to the plant, and fatal to the bloom.

JULY.—The plants have now advanced considerably in their growth, and the early ones, those which bloomed first and began to grow directly, may have completed their growth. This may be known by looking at the new branches; the leaves at the end will be as large as those of the old plants, and a bud terminates the joint or branch. If this bud be double, it is a bloom; if single, some check has prevented it from setting its bloom, want of water or pot room, or sudden change of temperature, or some other cause of a checked growth, has prevailed to the loss of bloom. In this case, let the plant be set out of doors to ripen its wood as soon as possible, and when ripened repot the plant if required, or if the pot be not much crowded with roots at the side, make the same pot do; put it into the propagating house, or a tan pit, or a cool part of the stove, to make its second growth. It is just possible, by these means, to make it set for bloom; and when it has completed its second growth in the stove, let the wood ripen in the greenhouse, or conservatory. But all such plants as have completed their

growth this month, and are set for bloom, should be put under canvass to keep off sun; where, however, the fullest air can be given in cloudy weather, and the sides be all open even in the mid-day sun—the roof alone being required to keep off the rays, except morning and evening, before and after the heat has gone. Attend to watering all those which are still making growth, or of which the leaves have not yet attained the full size. Look over the budded, grafted and inarched plants; cut off all the latter that have completed their union, and place them in the shade a little while. Take off all the growing part of the stock, that the whole vigor of it may be thrown into the graft. Release all the bandages from the bud-grafted plants; see that no part of the stock is growing, and all that are united properly may be put together where they may still have the advantage of the tan heat, and of shading by day. Pot off all the struck cuttings into sixty-sized pots, and after keeping them three or four days in the moderate heat of the propagating house, or of a declining hot-bed, let them be placed in a cold frame where they can be well watered, shaded, covered close in bad weather, and thrown open in mild, and there they may remain till the autumn, when they will have filled their pots with roots, and require to be potted into those of a larger size; or, if room be an object, they may remain in the same until the growing time in the spring. Look well now to the disposal of all the collection; for every plant will have completed its growth by the end of the month or the beginning of the next. In the event of not being able to put the plants under canvass, or in good deep pits, and of being forced to place them in the open garden, look out for the most sheltered place, where the mid-day sun will not reach them; or, if there be no such place, the sun must be kept off by artificial means.

AUGUST.—Little more is required this month than attention to watering, and turning such of the plants in the open ground as might otherwise grow through the pot and strike into the ground, which would greatly excite them in their season for resting, and give them such a check on removal as would effectually spoil them for

a season. The grafted and otherwise worked plants may be growing, or at rest, or, some each; for there is no answering for things put out of their way. Some of the bud-grafts will be growing rapidly, and these ought not to be removed from the propagating house; those which are evidently at rest should be placed in a cool situation, and be kept much more dry than the plants that are growing. It is however, not unusual to force the grafted plants into growth as early as possible, to get a second growth out of them if practicable. If this be the object, let the ball be examined; and if the roots have reached the side of the pot, shift them, and replace them in the propagating house, or a cool part of the stove. Generally, however, where the plants are at best, it is better to keep them so by placing them in a cool pit, and shading them from the extreme heat of the sun. If, however, any of them start into growth, encourage it by removing the plant into the greenhouse, where it will be more protected than it is desirable to keep those which are at rest and want coolness and plenty of air. This should also be done with all such of the plants in the collection as commence growing, for unless it be encouraged the plant will be damaged; the new growth not being matured, will perhaps, receive a check from cold winds while exposed to the open air. It is better therefore to remove it into the greenhouse, conservatory, or even into the dwelling-house, if you cannot find room in the stove or propagating-house, and it will be urged forward enough, perhaps to set for bloom, and if not, to keep the growth healthy, and the foliage perfect, that would otherwise have been subject to blight or the attack of the fly or other pests, and so have been spoiled so much as to cause it all to be cut back.

SEPTEMBER.—The buds have now swelled a good deal, and where they are too thick they should be thinned; two blooms should not be allowed together, one would spoil the other, or both would be spoiled, besides in nowise contributing to the beauty of a plant, even if both would grow and bloom perfect. The buds should not be nearer than four inches apart; but at the ends, where many varieties will set three

or four buds in a bunch, only one should be left, and that ought to be the most perfect and in the best position. It is now time to remove them to their winter quarters; some into the conservatory, some into the greenhouse, some in pits, according to their ultimate destination; all these intended to be thrown into flower early should be removed to the greenhouse, preparatory to going into the forcing house, vinery, or stove, wherever they are to be forced; but unless there be some especial object in very early flowers, it is better to keep them in their season, and to be content with the natural forwardness of some which will be always found to precede the main body of them. Place all the stocks in frames, for they are as well there as anywhere, and only require to be covered in very severe weather for the single and semi-double varieties are for the most part much harder than the double or highly fancy kinds. Water must be given now sparingly, and the drainage well examined before they are put in their winter quarters. Give all plants under glass abundance of room; pot off all struck cuttings not already done.

OCTOBER.—Little is now wanted but watching, and when really necessary, watering, but this can be only seldom, during the present month and next. The preceding remarks as to the treatment of the worked plants applies all through the winter. If they begin to grow, encourage them by taking them into the propagating house, and as the buds of established plants are now swelling, they must not be allowed to flag for want of water, although they must by no means be kept wet. Turn all the plants in the houses, so that they do not grow one-sided, for they would soon be spoiled if the light were only to come to one side of them, which is the case in almost all houses.

NOVEMBER.—This month requires only a continuance of last month's management, because the plants are only here and there throwing out an odd flower, unless regular forcing is going on, in which case a succession must be taken into the warmer house, and the places of those removed when forward enough must be occupied with the flowering plants that are to succeed them. They are always better removed

from the warmth when the buds first show colour, and allowed to open their flowers in the greenhouse or conservatory, as they then last much longer in perfection.

DECEMBER.—Continue as before directed and as mentioned in January, for the season is occasionally a month forwarder or backwarder, and the December and January months differ but little. When we observe that the season itself frequently changes places with the months, and the last and first differ but little; all the caution against frost and damp (the possible changes) required, are just as likely to be wanted in December as January, and in January as December.

PROPERTIES OF THE CAMELLIA.

The Flower.—1. The flower should be circular on the outside, when looked at in front.

2. The petals should be thick, smooth at the edges, broad and blunt outside, cupped or reflexed, as the case may be.

3. The petals should be imbricated (that is, each should have its centre over the joint of the under petals); each row of petals should be smaller than the row immediately under it.

4. The number of rows, one above the other, should form the flower into half a globe.

5. The colour should be alike all over, the flower, if a self; and if blotched or striped, the contrast of the colours should be striking.

6. If the flower be white, it should be pure; and if white and coloured in mixture, the white should be distinct, and the outline of a blotch or stripe, where the white and colour joins, should be very decided.

The Plant.—1. The foliage should be large and bright, the leaves close together, the joints short, and habit bushy.

2. The flowers should come singly and at the ends of shoots, so as to bloom free from the leaves.

Long straggling joints, like the species called *reticulata*, are objectionable; foliage dull and small like that of the same kind, is also detrimental to the appearance, and therefore forms another objection; rough ragged blooms, however large and showy, are a great drawback, hence *reticulata* pos-

sesses a third very objectionable character, and no plant was ever more overrated, Pointed petals, like those of *Eximia*, are greatly against a flower, and in this case spoil a variety which has many other beautiful properties; open ragged-looking flowers like *Doncklaari*, however striking, are bad; and we may safely say, that there is no class of flowers, of which even the best, or rather the most esteemed varieties, are capable of so much improvement.

GENERAL REMARKS.

The *Camellia japonica* can be propagated every month in the year by cuttings. Stocks therefore, may be always kept in all sorts of stages. We have given general directions for each month, but the growing or resting of the plant can be almost commanded at pleasure, and the only necessary condition of grafting, budding, or inarching, is that the stock shall be growing, and the nearer it is used to the commencement of its starting the better. Experience, convenience, means, and other circumstances, may dictate various expedients, and drive us from proper to improper seasons, but the foregoing directions have been founded on management which produced healthy, vigorous, and well-blooming plants in our own hands, and there can be no doubt, that although other modes may succeed, this cannot fail.

SELECT VARIETIES.

Flowers in the style of Imbricata.—Ade-laide, a very deep red; Agnesi, bright rose; Alba Fenestrata, pure white; Amabilis, a rosy carmine, occasionally speckled with white; Beali, *alias* Leeana Superb, vivid red; Byzantina, rose spotted with white; Duchesse d'Orleans, white tinted or spotted with rose; Hendersoni, *alias* Lombardi; Jacksoni, or Landreethii, delicate rose, bleaching towards the centre; Imbricata, rosy carmine; Minuta, rich cherry rose; Palmer's Perfection, beautiful carmine; Prattii, fine large bright rose; Pulcherrima, a rich dark red; Queen of England, delicate rose, striped with white; Sarniensis, a beautiful carmine; Sherwoodi, a bright cherry color; Sulcata, *alias* Belle Irene, white, with pale stripe in the centre of each petal; Venere, brilliant red; Wallichii, rich carmine.

Flowers in the style of the old double White.—Apollo, a transparent rose; Aurora, a salmon rose, marbled with white; Calypso, pure white; Brochii, cherry rose, striped with white; Candidissima, pure white; Cælestina, delicate rose; Coquettii, salmon rose, suffused with white spots; Cooperi, reddish salmon; Elegans, very large, and sometimes marbled with white; Estherii, white, with rose flakes; Fordi, salmon rose; Grunelli, pure white; Harri-soni, pure white; Helena, deep poppy red; Henri Favre, bright cherry rose; Hookeri, pomegranate colour, spotted white; Imbricata Alba, creamy white striped with rose; Marchioness of Exeter, beautiful rose; Marguerite Gouillon, blush rose, striped and spotted with carmine; Mutabilis Traversi, bronzy salmon, with white stripes; Negri,

carnation colour, spotted with red; Ochroleuca, creamy white, with buff centre; Palatinus Hungaricus, red, suffused with rose and white spots; Queen Victoria, reddish carmine, striped with white; Rudolphi, white, with broad blood-coloured stripes; Susannah, blush rose, shaded with salmon, and striped with carmine; Woodsii, fine rose; Wardi, brilliant red; Carswelliana, salmon red, striped with white.

NEW SEEDLING.

Countess of Orkney, very noble flower, not fully double, brilliantly striped with pale rose and deep crimson; outline, very good, and the flower beautiful in all its stages, free grown, rich foliage and good habit.

ON INDIAN CORN.

BY THOMAS CARLYLE.

[THE following article by THOMAS CARLYLE is from FRAZER'S MAGAZINE. Our readers will find an interest in it, besides what belongs to productions from the pen of the author of Sartor and the French Revolution, Ed.]

"It is much to be regretted that no individual of the many large classes whose business and interest it might seem to be, has yet taken any effective steps towards opening to our population the immense resource of Indian corn as an article of food. To all that have well considered it, this grain seems likely henceforth to be the staff of life for over-crowded Europe; capable not only of replacing the deceased potato which has now left us, but of infinitely surpassing in usefulness and cheapness all that the potato ever was.

"From general attainability, there was no article of food ever comparable to it before; a grown man, in any part of Europe accessible by sea, can be supported on it, at this date, wholesomely, and, if we understand the business, even agreeably, at the rate of little more than a penny a day; which surely is cheap enough. Neither, as the article is not grown at home, and can be procured only by commerce, need

political economists dread new 'Irish difficulties,' from the cheapness of it. Nor is there danger for unlimited periods yet, of its becoming dearer; it grows in the warm latitudes of the earth, profusely with the whole impulse of the sun; can grow over huge tracts and continents lying vacant hitherto, festering hitherto as pestiferous jungles, yielding only rattle-snakes and yellow fever; it is possible, if we were driven to it, the planet Earth, sown, where fit, with Indian corn, might produce a million times as much food as it now does, or has ever done! To the disconsolate Malthusian, this grain ought to be a sovereign comfort. In the single valley of Mississippi alone, were the rest of the earth all lying fallow, there could Indian corn enough be grown to support the whole posterity of Adam now alive; let the disconsolate Malthusian fling his 'geometrical series' into the corner; assist wisely in the 'free trade movement;' and dry up his tears. For a thousand years or two, there is decidedly no danger of our wanting food, if we do not want good sense and industry first. In a word, this invaluable foreign corn is not only calculated, as we said, to replace the defunct potato, but to surpass it a thousand fold in benefit for man; and

if the death of the potato has been the means of awakening us to such an immeasurable superior resource, we shall, in addition to our sorrowful Irish reasons, have many joyful English, European, American and universal reasons to thank Heaven that the potato has been so kind as to die.

"In the mean while, though extensively employed in the British Islands within these three years, Indian corn cannot be said to have come into use; for only the bungled counterfeit of it is hitherto in use; which may be well called not the use of Indian corn, but the abuse of it. Government did, indeed, on the first failure of the potato, send abroad printed papers about the cooking of this article, for behoof of the poor; and once, I recollect, there circulated in all the newspapers, for some weeks, promulgated by some 'Peace Missionary,' a set of flowery prophetic recipes for making Indian meal into most palatable puddings, with 'quarts of cream,' six eggs well whipt, &c.—ingredients out of which the British female intellect used to make tolerable puddings even without Indian meal, and by recipes of its own! Those recipes were circulated among the population—of little or no value, I now find, even as recipes; but in the mean while there was this fatal omission made, that no Indian meal on fair terms, and no good Indian meal on any terms at all, was, or is yet attainable among us to try by any recipe. In that unfortunate condition, I say, matters still remain.

"The actual value of Indian meal by retail, with a free demand, is about one penny per pound; or with a poor demand, as was inevitable at first, but need not have been necessary long, let us say three half-pence a pound. The London shops, two years ago, on extensive inquiry, were not found to yield any of it under three pence a pound—the price of wheaten flour; somewhere between twice and thrice times the cost of Indian meal. But further, and worse, all the Indian meal so purchaseable was found to have a *bitter* fusty taste in it; which, after multiplied experiments, was not eradicable by any cookery, though continued boiling in clear water did abate it considerably. Our approved method of cookery came at last to be, that of making

the meal with either hot or cold water into a thick batter, and boiling it, tied up in a linen cloth or set in a crockery shape, for four or sometimes seven hours, which produced a thick handsome looking pudding; such as one might have hoped would prove very eligible for eating instead of potatoes along with meat. Hope, however, did not correspond with experience. This handsome looking pudding combined readily with any kind of sauce, sweet, spicy, oleaginous; but except the old tang of bitterness, it had little taste of its own; and along with meat 'it could,' like Charles of Sweden's bread, 'be eaten,' but was never good, at best was barely endurable.

"Yet the Americans praised their Indian meal; celebrated its sapid excellencies, and in magazine novels, as we could see, 'lyrically recognised' them. Where could the error lie? This meal of a beautiful golden color, equably ground into fine hard powder, and without speck or admixture of any kind, seemed to the sight, the feel and the smell, faultless; only to the taste was there ineradicable final bitterness, which in bad samples even made the throat smart; and, as the meal seemed otherwise tasteless, acquired for it, from unpatriotic mockers among us, the name of 'soot and sawdust meal.' American friends at last informed us that the meal was *fusty*, spoiled; that Indian meal especially in warm weather, did not keep sweet above a few weeks; that we ought to procure Indian corn and have it ground ourselves. Indian corn was accordingly procured, with difficulty, from the eastern city regions, and with no better result, nay, with a worse. How old the corn might be, we, of course, knew only by testimony not above suspicion; perhaps it was corn of the *second* year in bond; but at all events the meal of it was too bitter; and the new evil was added of an intolerable mixture of *sand*; which, on reflection, was discovered to proceed from the English mill-stones, too soft for this new substance, could not grind it, could only grind themselves and it, and so produce a mixture of meal and sand. Soot-and-sawdust meal, with the addition of brayed flint; there was plainly no standing this. I had to take farewell of this Indian meal experiment; my poor patriotic attempt to learn eating

the new food of mankind, had to terminate here. My molendinary resources (as you who read my name will laughingly admit) were small; my individual need of meal was small; in fine, my stock of patience too was done.

"This being the condition under which Indian meal is hitherto known to the British population, no wonder they have little love for it, no wonder it has got a bad name among them! 'Soot-and-sawdust meal, with the admixture of brayed flint;' this is not a thing to fall in love with; nothing but starvation can reconcile a man to this. The starving Irish paupers, we accordingly find, do but eat and curse; complain loudly that their meal is unwholesome; that it is bad and bitter; that it is this and that—to all which there is little heed paid, and the official person has to answer with a shrug of the shoulders. In the unwholesomeness, except, perhaps for defect of boiling, I do not at all believe; but as to the bitter, uncooked unpalatability, my evidence is complete.

"Well, three days ago, I received, direct from the barn of an American friend, as it was stowed there last autumn, a small barrel of Indian corn in the natural state; large ears or cobs of corn merely stript of its loose leaves. On each ear, which is of obelisk shape, about the size of a large, thick, truncated carrot, there are, perhaps, about five-hundred grains arranged in close order in their eight columns; the color gold yellow, or, in some cases, with a flecker of blood-red. These grains need to be rubbed off, and ground by some rational miller, whose millstones are hard enough for the work; that is all the secret of preparing them. And here comes the important point. This grain, I now for the first time find, is *sweet*, among the sweetest; with an excellent rich taste, something like that of nuts; indeed, it seems to me, probably from novelty in part decidedly sweeter than wheat or any other grain I have ever tasted. So that it would appear that all our experiments hitherto on Indian meal have been vitiated to the heart by a deadly original sin, or fundamental falsity to start with; as if experimenting on Westphalia ham, all the ham hitherto presented us for trial had been

in a *rancid* state. The difference between ham and rancid ham, M. Soyer well known, is considerable! *This* is the difference, however, this highly considerable one, we have encountered hitherto in all our experiences of Indian meal. Ground by a reasonable miller, who grinds only it, and not his millstones along with it, this grain, I can already promise, will make cleanly, wholesome and palatable eating; and be fit for the cook's art under all manner of conditions; ready to combine with whatever judicious condiment, and reward well whatever wise treatment he applies to it; and, indeed, on the whole, I should say, a more promising article could not well be submitted to him if his art is really a useful one.

"These facts, in a time of potato failures, apprehension of want, and occasional fits of wide spread, too-authentic want and famine, when M. Soyer has to set about concocting miraculously cheap soup, and the Government to make enormous grants and rates-in-aid, seem to me of a decidedly comfortable kind; well deserving practical investigation by the European Soyer, government, mendicity societies, poor-law boards, friends of distressed needle-women and friends of the human species who are often sadly in alarm as to the 'food prospects' and who have here, if they will clear the entrance, a most extensive harbor of refuge.

Practical English enterprise, independent of benevolence, might now find, and will by and by have to find, in reference to this foreign article of food, an immense development. And as for specially benevolent bodies of men, whose grand text is the 'food prospects,' they, I must declare, are wandering in darkness with broad day beside them, till they teach us to get Indian meal, such as our American cousins get, that we may eat it with thanks to heaven as they do.—New food, whole continents of food; and not rancid ham, but the actual sound Westphalia! To this consumption we must come; there is no other harbor of refuge for hungry human population; but all the distressed population fleets and disconsolate Malthusian of the world may ride there; and surely it is great pity the entrance were not cleared a little, and a few buoys set up and soundings taken by competent persons. C.

DOMESTIC NOTICES.

REMARKS ON SOME DWARF BEANS.—*Dear Sir:* The venerable PHILIP MILLER, nearly a century ago, pointed out in his "Gardener's Kalender," the advantages "those gentlemen who lived in the country" derive through being enabled "to make choice of such fruits and esculent plants as will be in season at a particular time of the year." In these commercial, money-making days, not only "those gentlemen," but the horticultural public generally, are interested in making the acquaintance of the properties and qualities of esculent plants and fruits. Whoever aids in extending this acquaintance, I deem to be useful—no matter how slight or how trivial his exertions may be. Under this impression, I sent you the result of a small experiment on the comparative earliness of some kinds of Peas. You also thought it useful, and published it—this encourages me to offer you another on some dwarf Beans.

I sowed two rows of each of the following kinds, "side by side," on the 24th of May, they were ready for use in the following order:—

- | | |
|--------------------------------------|----------|
| 1. Early Mohawk, | July 6. |
| 2. Early Six Weeks, or Dun Bean, do. | 8. |
| 3. China Red Eyed, | do. 10. |
| 4. Early Valentine, | July 10. |
| 5. Late Valentine, or Refugee, ... | do. 14. |
| 6. Royal Dwarf, | do. 14. |

Early Mohawk is a full sized bean, of a light brown color, profusely covered by brownish purple blotches—its earliness is its best recommendation. *Early Six Weeks*, full sized—of a dull cream color, and a good bearer. *China Red Eyed*, small bean, white—red about the "eye," comparatively productive. The pods are very slender and handsome and the plant dwarf, soon dying out, thereby rendering a useful kind where another crop is required immediately to succeed. *Early Valentine*, bean middle-sized, light brown—nearly covered with very pale purple blotches. This is a very popular bean for general use, and, I opine, deservedly so. *Late Valentine*, bean small, dull white—profusely covered with deep purple blotches,—pod small, generally streaked with purple white green. It possesses a valuable property in being a continual bearer—at the end of September it bore many green and tender enough for use. *Royal Dwarf*, large white bean, plant of a robust thickset habit of growth. Though the latest, it is the best kind for producing a great weight of seed.

With these, I also sowed the *White Dwarf*, *Mexican Black*, and some other kinds, from the United States Patent Office. The two former proved to be running beans to a certain extent. I have therefore refrained from making any comparative remarks on them. They are not, however, true running beans. I would make of them a third, or intermediate class, including the *Late*

Valentine from the true dwarfs. Such a class might be termed "Running Dwarf beans." Their distinctive character from dwarfs, would be continual bearing, and their distinctive treatment, deeper soil, and an occasional cutting back of their straggling shoots. The beans from the U. S. Patent Office, were named respectively "Red Bean," "Speckled Bean," and "Small Chilean Bean." Either from being old seed, or from having been injured by a long voyage from a foreign climate, which is possible,—or from having been ripened in a different climate from that in which they were sowed, which I think probable,—or more probably from all three causes combined, they have but just made their appearance through the soil—too late to be of any service. They were very large and handsome beans,—and, I think, can they be successfully cultivated we shall be indebted to the Patent Office for a very useful introduction.

Would the Editor encourage me to inquire of the readers of the Horticulturist, whether any person has been more successful than I with them? I am, Sir, Very respectfully yours, *Thomas Meehan, Rosedale, Kingessing, Philadelphia.*

SPECIAL MANURES.—Your timely article in the last number of your valuable paper—upon the *falling leaves* for enriching the soil, prevented my burning a large quantity.

I had thought of their virtue but supposed I would gain by destroying the embryo insects which I thought to abound on them, secreted for another spring sun's warmth.

I have gathered them and put them three to four inches deep, on an asparagus bed, and then covered them (to prevent the wind's blowing them off,) by well rotted manure; next spring, (from the warm and sure protection from the winter's frost) I look for an early and healthy return for my labor.

In the spring I shall dig them in—and the soil will be truly enriched. [We trust you have included in the dressing, the tops of the asparagus itself. Ed.]

This has not been the first suggestion heeded from your paper.

After having the "Old Digger's" article published in our Democrat, in common with several, I made a bed after his plan, and find my vines well rooted. I put the "Rival Hudson," Burr's "New Pine," "Early Scarlet," "Hovey's," and some new seedlings from E. & Barry's, in the bed.—The success it will do to report upon hereafter. If the plan succeeds well, due credit will be given to your good hearted correspondent.

I am sorry to say that our apple crop is very poor this year.

The fruit which we have is imperfect—Strawberries, plums, pears, cherries, and quinces, have

done well, and the best Virgalien and Bartlett pears, I have seen the past season. Was it not for *blight* we could supply large quantities of pears. Many trees have died within two years, and as many as 100 in one gentleman's garden that I know of. The Northern Spy, and Norton's Melon apple are extremely short, and I fear good samples are not to be had. Among strange things, we are importing apples from Canada, fine Pomme Gris, Spitzenbergs, Rhode Island Greenings, Golden and Roxbury Russets, have been brought over from there. If *they*, the Canadas are to be annexed, we shall be more glad to welcome them with good fruit. Truly, *James H. Watts. Rochester, Monroe Co., N. Y.*

.....
IMPROVEMENT OF THE SOIL.—*Dear Sir:* I beg to offer a few remarks on the improvement of the soil. Too much cannot be said to impress the importance of ameliorating the soil on the minds of all who own an acre of land, especially to the gardening class, whose success depends so much upon it. In many instances, how often you will find amateurs, and even gardeners complain that certain vegetables will not do here, or that worms always destroy certain others, and that others again are affected by blight and do no good. All this is in no way to be wondered at, when we consider the unimproved state in which the ground is in, perhaps never having been dug more than six or eight inches deep. This is the main cause of all such failures, because the roots have no depth of soil to work in. Therefore, the importance of deep culture, I would recommend all to trench as much of their garden ground every winter as they can, to the depth of two to four feet, as their soil and time will allow, turning the surface to the bottom and bringing the bottom to the top, leaving it in rough ridges, with as much surface as possible. Ridge-up also, all that you have not time to trench, and dig the remainder, sending the spade in its full depth, and thoroughly turning it up from the bottom. Do not content yourself with the common idea that little can be done in the garden in winter. In my opinion, it is the most valuable season of the year, embrace every frosty morning, and fork over the ground previously trenched, ridged or dug, turning up the frozen surface, and loosening up the soil below to the action of the weather. Thus continuing, you destroy the thousands of insects that are harbored therein, and which in their course devour your crops. You also gain a great depth of well pulverised and sweetened soil, in which your crops will flourish in excellent health, as well as be far more wholesome to the consumer; besides, should the season prove dry, you have such a depth of soil that no continuance of dry weather will affect it, and should it prove wet, there is the same extent for the moisture. By pursuing this method, you will in a few years have your ground in an excellent state of cultivation, and much greater success will attend

your culture of fruits as well as vegetables. Manuring is of course highly essential, and to be understood as accompanying trenching. I also find very valuable results from charred materials, which I get by collecting all refuse from the garden, and all that I can procure here and there, in the shape of wood, brush or rubbish. When I have enough together, I start a good body of fire, on which I put layers of wood, clay or earth, sods, and all the general rubbish, lastly covering it up with soil, to prevent any outbreak. In a week or two, it will be all completely charred and fit for use, this I apply on the ground, (which is made beautifully mellow) in as hot and dry a state as possible; thoroughly intermixing it with three-tined forks, which is far better than the usual way of digging in with a spade; of such charred heaps endeavor to have as many of them throughout the year as you can. Never allow the untidy appearance of any rubbish, or the unwholesome smell of decaying matter, when you can by such a process turn it into valuable manure. Another valuable end might be gained by turning your attention to the great amount of bones that might be gathered in the woods, and if you have not the means of grinding or dissolving them, just turn them into the bottom of the trenches they will decay in time, and as fast will the roots of young fruits or vegetables feed upon them. *James Stewart. Memphis, Tennessee.*

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FRUITS IN MISSISSIPPI.—*Dear Sir:* After eight years' experience in the cultivation of fruits in Amite county, Miss., lat. 31°, I will give you the results. My land is rolling, light loam with red clay subsoil, contains very little lime. Spring water of the purest free stone. The lands around me have very much the appearance of that near Washington City.

I purchased my trees at Cincinnati, Ohio, and at Vicksburg, Miss. The trees from Vicksburg do much better than those from Cincinnati; I have lost a great many of the western Ohio trees, they seem to become diseased near the surface of the ground or in the roots; I was very careful in setting them out—I put them thirty feet apart, in holes from four to six feet square and eighteen inches deep; I filled the holes about half full of rich soil from the forest, placed the tree in the proper position, then drove down a stake, tied the tree to it with a piece of strong cloth, putting a handful of straw between to prevent the bark being rubbed off, I then filled the hole with rich mould, and trampled down, leaving the top as level as possible, and finished by putting some straw or leaves around each tree to preserve moisture during summer. I have my orchard plowed and harrowed once or twice a year, and weeds, &c., kept down. I use lime and ashes around my trees every spring.

I find that your fall and winter varieties ripen here in summer. All of the early kinds do well; and I have a number of summer apples, but only

one or two winter varieties. My apples rot very much about the time of ripening, particularly if there is much showery weather with hot sun. Below are the names of such as prove to be adapted to my soil and latitude, viz:

APPLES—Davis—Medium size green apple; ripens in Winter, keeps till April.

Grindstone—A very good winter apple; healthy tree.

Horse Apple—Large yellow; ripens in July; certain bearer.

Bevan—Early summer; a very thrifty healthy tree.

Holland Pippin—A certain bearer; ripens in July and August.

Maiden's Blush—Ripens in August; a hardy tree.

Terry's Red Streak Striped—Ripens 1st. Sept.; healthy tree.

White Bellefleur—Ripens in summer and hardy tree.

Golden Russett—Ripens in September.

Early Harvest—A certain bearer; ripens 1st of July.

All of the early apples do finely.

P.ARS—The Bartlett fruits well, is the healthiest tree, and bears very young, and ripens in August.

Surpass Virgalieu—Fruits well and young; ripens in September; hardy tree.

These two are the only kinds that I could recommend; as my other trees have not fruited. There are three of them that seem to be very healthy trees, the Hericart, Jargonelle and Julienne. The early Catharine has not fruited (now 8 years since planted) and is very much affected by the blight every summer, a great many of the limbs die, but the body looks healthy.

All kinds of peaches do well where proper attention is given; they are very much troubled by the curculio and grub.

Keeping a few hogs in the orchard is one of the best remedies; you see a great difference the second year after putting them in.

I have two very fine young fig trees, (the large Blue and yellow Smyrna) which have been killed to the ground every winter, being at the time from eight to ten feet high. Can you inform me how to prevent it? [Yes. It is only necessary in your latitude to shade them in winter. Ed.] Very respectfully yours, *E. J. Capell, Centreville, Annet Co., Miss., Oct. 13, 1849.*

P. S. The apples above named were selected out of 45 varieties growing in my orchard.

Out of 13 kinds of pears, those mentioned are the best for this latitude and soil.

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PRYOR'S RED APPLE.—Sir: I noticed in your journal, vol. 2nd, page 18, a figure and description of the Pryor Red apple, by Mr. Byram of Kentucky. The caption of the article would lead me to suppose that it was a western apple, but as a Virginian, I wish to claim what properly belongs

to Virginia. For authority, I insert Mr. I Sitlington's name, of Highland City, Va., an aged and respectable gentleman, who has been acquainted with the apple for many years, and says it originated some seventy years since, in Botetourt Co., of this State, and was originally known by the name of Pitzerhill apple, from its having originated on a considerable eminence on Pitzer's farm, hence the combination of Pitzer and Hill. Afterwards it received the name of Bighill, from its situation at the time of origin, and previous (agreeable to Mr. Sitlington's statement) to Mr. Pryor coming in possession of the farm. The description by Mr. Byram would be more complete (if agreeable to pomological rules,) to insert thick skin and of the peculiar very acute angles which the branches sometimes forms. Yours respectfully, *Wm. Rice. Bridgewater, Va., Nov. 14, 1849.* [Please let us have specimens for comparison. Ed.]

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DESCRIPTION OF THE CLAY HALL SEEDLING GRAPE.—*A. J. Downing, Esq.*: According to promise, I now send you a description of the "*Clay Hall Seedling*" Grape, having lately received a communication from Mr. ALEXANDER MURDOCK, gardener at Clay Hall, County of Norfolk, the seat of T. BUCKWORTH, Esq. Mr. Murdock writes me, that in 1828 he fertilised a bunch of Muscadine, (the *White Chasselas of the U. S.*) with the pollen of the *Black Lombardy*; that produced the above very desirable variety.

The most remarkable feature in this grape is the perfect demarkation of the berry in colour, *the one half being perfectly white, and the other half perfectly black.* The coloring is not "run," or blended, as Grizzly Frontignan, or Aleppo, which varieties are not half so well defined in the colour of the berry as the *Clay Hall Seedling*. The great merits this variety possesses, are its good forcing properties, and its being *very prolific*; its adaptation for pot culture, and all situations where grapes are forced early, will also give great satisfaction.

The following are the characteristics of Clay Hall Seedling: quality, first rate; form of berry, perfectly round; colour, *half the berry white, half black*; leaf rather small, and of a bright, shining colour, and of the darkest green; wood, pale brown, short-jointed, and of only moderately strong growth; size of bunch, medium; size of the berry, same as that of White Frontignan. This variety, although originated so long ago, has been confined to the neighborhood in which it was originated; and had it not been for its excellence in forcing, might have been probably overlooked altogether; as its size, and not very robust habit, would have condemned it for late vineries, when such sorts as Reine du Rois, Cannon Hall Muscat, and Muscat Eschalota, and White Neice, were to be had; as these varieties combined size and flavor, and are very prolific. I shall import some plants this fall, when I shall take pleasure

in presenting you a plant, feeling quite satisfied that you will be pleased with it. [We shall be much obliged. Ed.] Yours truly, *James Stewart.*
5th st., and N. Y. Avenue, Washington, D. C.
Nov. 1849.

GREEN-HOUSE PLANTS AND GARDENERS.—*Sir:* Your readers will perhaps recollect that the bearing of my former letters was (partly) to the effect that light and air are as necessary to give vigorous vegetation, as food is to sustain animal life. I have shown in a former number, (page 145) the injurious effect that strong light has upon plants under glass; also the remedy most suitable to counteract it, and aid in the healthy development of their various organs. Air is as essential to plants as light. LIEBIG says, that by loosening the soil that surrounds young plants we favor the access of air, and the formation of carbonic acid; and that the quantity of their food is diminished by every difficulty that opposes the renewal of air; and that placed in a closed vessel in which the air, (and therefore the carbonic acid) cannot be renewed, a plant dies exactly as it would in the vacuum of an air pump, or in an atmosphere of nitrogen or carbonic acid, even though its roots be fixed in the richest mould. The same author further adds that all plants die if placed in soils and water which contain no oxygen. Absence of air acts exactly in the same manner as an excess of carbonic acid. This theory is sufficiently explicit as to the importance of air to plants. Their food consisting of inorganic substances, such as carbon, nitrogen, oxygen, ammonia, &c., &c., and the air being impregnated with or composed of these various substances, its exclusion, particularly in day light, will be injurious to vegetation. On the other hand, such a draft of dry air as is often produced by throwing doors and windows on all sides, open in very dry weather, or during parching cold winds, will rob plants of their water as well as intense light; besides, it not unfrequently changes the sepals of undeveloped flower-buds and scales that protect the growing points, of evergreen plants from their usual colour, to that blighted or black appearance so often observed in Camellias and other plants. This is also caused by keeping the plants out of doors (as is commonly practiced) during heavy autumn rains and great extremes of temperature, for which this country is remarkable. Yet, strange to say, many of our best amateurs and gardeners have hitherto failed in ascertaining the cause of this defect, and will not be unfrequently heard to express a surprise at what caused it. All that is required to obviate this evil, is to remove the plants to their winter quarters (or at least under glass) before the heavy autumnal rains set in, as the days are then generally hot, it is necessary that the plants should be shaded from the mid-day sun. If the foregoing precautions, careful watering, judicious ventilation, and good drainage is attended to, this long-complained-of difficulty will soon disappear.

Your readers will perhaps recollect that I have always endeavored to impress the necessity of air as well as an adjustment of light as not only essential but indispensable to all plants under glass, a subject on which there is little or no difference of opinion among practical men, with the solitary exception of Mr. LEUCHARS, one of the correspondents of this journal, who has broached a doctrine hitherto unprecedented in horticultural records. He was not satisfied with thus infringing on the simple but wise lessons that nature teaches us, but has designated all European gardeners in this country, (with "a few honorable exceptions") as imposters, deceivers, quacks.

As a British gardener, I am particularly acquainted with many of the profession from every part of the British Islands, several of which are now in this country. In justice to them, I must so far deviate from Mr. LEUCHARS' opinion, that I believe them a credit both to their profession and their country. I perfectly agree with Mr. MEEHAN's remarks as to the injury that such wholesale statements are calculated to inflict on European gardeners.

Who can read the leading article of the same number, where you establish the taste and ability of European (particularly British) gardeners every where, in the following words: "So completely is this true, that wherever on the continent one finds a garden conspicuous for the taste of its design, one is certain to learn that it is laid out in the English style, and usually kept by an English Gardener;" what conclusion I ask can your readers arrive at, but that Mr. LEUCHARS, who wishes to teach the American people, knows nothing of the gardening of the most refined nation.

Let us next take a retrospective view of Mr. LEUCHARS' practice, and see if the many calumnies he so liberally heaps upon us poor foreign gardeners, will not retaliate on himself. In his first article, he tells us that he keeps his plant house shut in the day, throwing water on the floor, on the flues, and on every available surface, and throwing them open at night.

Now, the following is the practice in European gardens: In hot weather, during the summer months, the plants are watered and syringed, if required, after 4 o'clock in the evenings, and in some places, where the families recreate themselves in the evening in carefully studying the natural productions of foreign climes, as grouped in their pleasure grounds, or congregated within the limits of a small house, the walks are kept perfectly dry. Should other work interfere with this routine, it is done the first thing the next morning, the passages, &c. dried as before, so that it will be found ready for the family or visitors at all times. In the winter months, when the days are short, the weather cold and damp, and vegetation partly arrested, this business of watering is performed in the forenoon. Drying walks, &c., as directed for the summer months, always giving air when the weather permits. Under this treatment, a lady with the thin-

next shoe can enjoy the conservatory, with as little danger of wet feet as in a drawing-room; and breathing as pure an atmosphere as in the open air. How different from Mr. LEUCHARS' treatment, where a person must necessarily be near their ankles in water, and in a suffocating atmosphere near the point of saturation. It is not unfrequent to see those "Honorable exceptions" when failing to fulfil the duties of their station, to ascribe their insurmountable difficulties to some extraordinary phenomena, or some irremediable cause, and in the end, make a great fuss about nothing. I see no more difficulty in the summer management of green-houses under the bright sun of North America, (with proper blinds and ventilation) than in the cool climate of Britain.

In his second letter, (summer treatment of plants) he objects to evening watering, because he says it cools the surface excessively, and chills the roots of plants. He prefers the early part of the morning for watering all plants out of doors, and about noon to water those in the houses. By treating these particulars in a philosophical point of view, your readers will be better able to judge of his scientific principles. Where, in any quarter of the globe, whether in the frigid, temperate or torrid zones, has nature excluded a plant from the wholesome breezes of day, as Mr. LEUCHARS has done? 'Tis with the combined action of light and air, that plants will harden their texture. If kept in a high temperature and damp atmosphere without air, their wood is soft and of a pale colour from the superabundance of indigested sap. Neither will the night air restore the plants to their usual greenness, for the carbonic acid and water which has been absorbed by the leaves and by the roots, ceases to be decomposed on the departure of light. The plants during the night re-absorb oxygen from the atmosphere, and re-combine it with the matter they contain, to be again liberated at the return of light. And Dr. LINDLEY observes that no plants can long exist in which this alternate action is prevented, unless perhaps fungals and brown parasites.

Mr. LEUCHARS' objection to evening watering, is the cooling of the surface excessively, and chilling the roots of the plants; but I cannot perceive how his early morning and mid-day watering can better his condition. I submit it to the consideration of your readers, that water when exposed to the sun and air during the day, will be better applied after 4 o'clock in the evening than at any other time; for then the heat of the sun's rays is decreasing, and the temperature of the soil may be a little modified also; nor do I think there is any great difference betwixt the morning and evening temperature of the soil, in our warm summer months, whilst that of the water must be decidedly great, as is obvious from the water being nine or ten hours without the influence of the sun's rays.

I think reason and science justify the practice of evening watering, not as Mr. LEUCHARS insinu-

ated that the majority of people, by a sort of general consent, adhere to it without having any well determined notions whether it is right or wrong; but each person taking the example of his neighbor as a very good reason why he should do it himself. Now the great advantage of evening watering and syringing, and the reason why it should be adhered to in summer, is already given, but which I might for further elucidation, reassert here—it is simply that the oxygen the plants absorbed the previous night was restored to the atmosphere during the day. Therefore, water applied in the evening, whether to the roots, to the leaves, or surrounding surface, will increase the quantity of oxygen to be reabsorbed during the night, and again liberated with the return of light.

With the exception of those passages to which I have particularly alluded, Mr. LEUCHARS' letters are worthy the attention of every American reader, and I hope he will in future devote his talents to some subject more advantageous to the community, than villifying European gardeners in this country. I remain sir, respectfully yours, *M. C. Williamsburgh, N. Y., Nov., 1849.*

DRIED PIE-PLANT.—*A. J. Downing, Esq.*
Dear Sir: A very respectable colored man of this place, MANSFIELD HERBERT, called on me a few days since, and stated that he had been in the habit of raising Rhubarb plant for sale; but that having lost his market last summer in consequence of the prevalence of cholera, he had tried the experiment of drying it for winter use. In this he considered he had been entirely successful; and he brought me samples both of the dried plant and the pie made with it.

He thinks it a new thing and considers it quite important, both for those who have a particular relish for that kind of pies, and for ships going to sea on long voyages.

It is new to me, but perhaps may not be so to you. However, at my suggestion, he has sent you the specimens contained in the accompanying box. He recommends that the plant be cut into small pieces and put into water over night. In the morning, drain off the water in which they have been soaked and they are ready for use. Yours, respectfully, *Wm. P. Sherman. Trenton, N. J., Nov. 18, 1849.*

[We have tried the dried Rhubarb stalks (which came very nicely preserved and packed in a box,) and having put them to trial, can bear testimony to their making an excellent tart. *Ed.*]

WARMING AND VENTILATING.—We have had several letters lately asking advice as to the best mode of warming and ventilating houses—a most important matter, but little understood in this country.

We have prepared some remarks on this subject in our work on *Country Houses*, now going through the press. In the mean time, we recommend those who wish immediately to set about warming

and ventilating, houses, churches, or public buildings of any kind, in the most complete method yet known to us, to call at the warehouse of MESSRS. CHILSON, ALLEN, WALKER & Co., 351 Broadway, New-York, or CHILSON, DUNKLEE & Co., 53 Blackstone street, Boston, where they will see Emerson's patent ventilating apparatus, and Chilson's furnace, the merits of which have been fully proved in all the public schools, and a great number of private houses in Boston, and which are such as must bring them into general use. Information regarding the process of warming and ventilation will be cheerfully given at these warehouses, to all persons interested in the subject.

The Boston School-Ventilating stove may also be seen at these warehouses. It is the only coal stove we have ever seen that does not vitiate the atmosphere—and as it has an air chamber connected by an air-duct passing under the bottom of the stove (through the floor,) to the open air, a volume of pure fresh air is constantly brought into the apartment while it is being warmed. This stove appears to us to be perfectly suited for warming small green-houses or plant cabinets, as the Polmaise mode of heating, (the most perfect of all methods for the health of plants,) may be effected by this stove in the easiest possible manner. We shall give a cut of this stove and some particulars hereafter.

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ROSE CUTTINGS.—A friend of mine thinks he is in possession of a great secret with regard to raising roses from the slip or cutting. His plan is to stick the cutting about an inch deep into *clean* river sand, (if it is not clean to work it clean,) and as soon as the rootlets are formed, to place them in suitably prepared soil, or let the soil be beneath the sand at the right depth for the roots to strike into—say an inch or perhaps a little more. He says he does not loose one in twenty. The sand, which of course is kept moist, prevents the wood from rotting. My brother, Dr. C. E. M. has succeeded in this way, when every other experiment has failed. [This method, which we have practiced years ago, is an excellent one. Ed.] *J. R. M. Chalk Level, Va., Nov. 10, 1849.*

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FINE INDIGENOUS PLUM.—*A. J. Downing, Esq. Dear Sir:* I herewith enclose you some plum seed that I found in a wild state on a small creek near this place, some few years since, and introduced it to my garden. It is superior to any plum I have ever seen for preserving. It is purple, and covered with a rich bloom, and is very handsome, much more so than the Dawson. It has improved much by cultivation, is a never-failing bearer; a low spreading tree of rather slow growth; mine has never been injured by frost or curculio: has borne for seven years in my garden. This year, one tree had about two bushels on it. I never have found it growing except at one place in this state. I think you will be highly pleased with it,

and it will be a great acquisition to your fine assortment of fruit. I think it superior to the Dawson or Frost Gage, as a preserving plum, which has induced me to send the seed to you, knowing that you were fond of something rare and new. Respectfully, yours, &c., *A. A. Cleveland. Washington, Wilkes Co. Ga., November 2, 1849.*

[Many thanks. We think from the appearance of the plum-stones, the species is one not at all known here, and we will gladly give it a trial. Ed.]

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McLAUGHLIN PLUM.—We have organised a horticultural society in Bangor, and had our first exhibition on the 13th and 14th of September. The display of fruits was really imposing for the first effort, and more especially that of plums, having on our tables most of the varieties noticed in your work on "fruit and fruit trees." For beauty, large size and fine flavor, none attracted more attention than the *McLaughlin* plum, a native of Bangor. The committee on fruits decided it was superior to any other plum on our tables, with the single exception of the Green Gage. B. F. Nourse, Esq., of our society, sent a box of the *McLaughlin* plums to the Massachusetts Hort. Society, and President Walker informs me that their society also came to the same decision. Respectfully, *Henry Little. Bangor, Me., Sept., 1849.* [The foregoing was sent us some time ago, but was accidentally mislaid. The *McLaughlin* plum is spoken of by all eastern pomologists as a great acquisition to this class of fruits—of the *best* quality as regards flavor and appearance, and remarkably hardy and productive. Ed.]

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TREES IN TOWNS AND VILLAGES.—We marked the following for insertion some time ago, but it has been delayed—though not too late, for it is never too late to urge the advantage of embellishing rural villages with shade trees. It is the report of the Rockingham Farmers' Club, Exeter, N. H.—and is worthy of being "printed in gold" and hung up in every village in the country—where it would be a *capital* kind of punishment, to hang up in like manner all who are not induced by it to become tree planters. Ed.

As to the failure of success in planting trees, we have something to say.—So long as it is true, that by far the greater part of the trees set by the streets in our village perish in the first two years—while of those properly set and protected, not one in ten is lost, it must be evident that accurate knowledge on the subject is still wanting, and in hope of aiding to supply that want, we propose to suggest, in a practical form, our views upon the subject. And first as to

The kind of Trees.—Above all others, for the street, the *Elm* is to be preferred. For beauty, gracefulness, *grandeur* even, it has no equal in New England. Besides, it is hardy, long-lived, easily procured, and free from the attacks of insects and disease. The *Rock-maple* comes next,

—a beautiful and stately tree, though somewhat precise and rigid in its outline, and of much slower growth than the Elm. It is hardy, bears transplanting well, affords an impenetrable shade, and alternating in rows with the elm, by the way side, or mingled in groups where there is room for them, it affords a beautiful and desirable variety. Neither the Red-maple nor the White-maple can be compared with the Rock-maple. They are smaller, shorter lived, less hardy, and altogether inferior to it in grace and beauty, and are recommended only where there is room for variety.

The White Ash is a tree which seems not to be appreciated, and is one of our finest trees, and for size, durability and beauty, entitled to the third place in our list.

Then we have the Bass or American Linden, not surpassed by any tree in the richness and beauty of its foliage—a tree not sufficiently hardy perhaps for the street, but, “beautiful exceedingly” in a lawn or private grounds.

The Beech is a tree deserving its classic fame, but too full of local attachments and home feelings to survive removal without great care, and the Walnut is liable to the same objection.

Where space allows, as in public squares and lawns, avoid rows and square circles, and mathematics in general, in tree-planting—avoid sameness in kind and size and shape, and endeavor to imitate the cunning hand of nature in tasteful inequality of grouping.

Time for Transplanting.—All deciduous forest trees may be removed at any time after the fall of the leaf in autumn, and before the bursting of the buds in spring. If removed in the bright warm days of spring, their roots should be carefully shaded from the sun, and in fall and winter they must not be exposed naked to severe cold.

Preparation for Setting.—For your trees upon the streets, dig the holes 6 feet in diameter and 18 inches deep *before the trees are procured*;—replace the subsoil with good soil and procure enough more and deposit near, to fill up level with the earth, so as not to use the sand or gravel from the bottom, and have ready two pieces of joist or plank 4 inches wide, with proper strips of board for protection of the trees. Do all this at your leisure, before the trees are dug. It is the largest half of the whole operation, and should never be left to the hour when returning late, weary and heavy laden from your labor of procuring them, you will have neither time nor strength to perform it carefully and speedily, and when your poor trees, like so many fish out of water, are panting and suffering for a return to their native element.

Selection of Trees and digging up.—Procure trees from open land rather than from thick woods, if possible, and those of thick and low growth, rather than tall and slender trees, and be sure they are young and growing. It is generally advised to take them from land similar to that where they are to be set, but this is not essential. Elms from

swamps and bogs, transplanted on dry lands and pine plains, are now growing all about us in Exeter. It is of more importance to take them from such soil as will allow their removal with least injury to the roots, and therefore not from land filled with stones or large roots.

Some writers insist that the trees be marked before removal, that they may be set in the same position as to the points of compass as before—and the theory is reasonable, though the practice, however it may promote their growth and comfort, is not essential to their life. They soon “get the hang” of their new position, if the theory is disregarded, while Sam Weller’s reason for a father whipping his boy “it can’t do any hurt if it don’t do any good,” may be given in support of the practice.

Having selected a tree of about three inches in diameter, with a sharp spade, an axe and a bog hoe, dig a trench about two and a-half feet from it, completely around it, deep enough to cut off every root; then dig under it till it is loosened, using no crow-bar or lever to gall and split the roots, and carefully preserving all the small roots and fibres. Load the trees when dug upon a long wagon, putting pine boughs under them to prevent rubbing, and cover the roots from the sun. About a dozen such will make a load for a horse, and three or four smart men can dig and get them home in half a day.

Trimming and Setting out.—With a fine saw, and a knife, cut off smoothly all the broken roots. *Next cut away one-half at least of the top*, either by shortening the limbs, or cutting part of them away entirely, as the shape of the tree may require. We are aware that this is disputed territory, and take the responsibility of holding it. We suppose that the sap is supplied through the roots, that in hot, dry weather, evaporation goes on rapidly from the leaves—that if that evaporation exceeds the supply of sap, the leaves wither and the tree dies.

But there are other reasons for lessening the top. The tree has grown in a sheltered position, protected from the rude “winds of Heaven”—perchance in society, resting its long arms on the shoulders of its friends and kindred—supported in the loving embrace of its companions. It has had no discipline or preparation for the cold and lonely and trying exposure of a public position. But now you have cut away its old supporters—literally *root and branch*. With its full top exposed to the tempest, the small newly formed roots which should attach it to its new position, are constantly broken off, and it cannot live. This is the cause of the failure of many attempts at transplanting. Plant the tree no deeper than it grew before. Nature who has attended to growing trees some six thousand years, understands well how they should be set, and cannot be improved upon. Drive your stakes before the roots are covered, that you may not injure them. Then having carefully placed the roots in their natural position, fill

up with finely pulverised soil and see that no space is left beneath them. When the roots are fully covered, place about half a bundle of straw or as much hay over the whole surface of the hole and cover it with soil, leaving in spring a little hollow about the tree. If you plant in the fall, make a little heap of earth about the tree, to turn off the water, and remove it the next spring. The straw will prevent the evaporation of the moisture about the roots, and keep the soil around the tree light for several years; it tends to prevent the growth of weeds and grass, and admits the free passage of rain, or water artificially applied. Do not omit this precaution; it is almost essential on sandy land.

Care after planting.—If you plant trees in a public street, do not consider the work complete, until they are protected from animals, as well as from motion by winds, by securing them with stakes, as before suggested. A strip of board on each of two sides of the tree, or a strip of leather put round it and attached by a wire to each stake, will protect it sufficiently against the racking of the winds, and against roving cattle, which delight to find a new tree to rub against. But we may still utter the prayer, “save us from our friends,” for many of them seem to think that trees are principally useful as a means of securing horses. Trees then, near your dwellings, should be boxed up about seven feet high, if you do not intend to lose both your friend and your tree. He will tie his horse to your tree, and the horse, of course, will amuse himself with gnawing the bark. You will be exceedingly vexed, and possibly rude, and will be consoled by the assurance that he never knew his horse to do so before, and you will part, your friend grieved at the accident, and you wishing him and his horse at the — end of their journey!

If a drouth comes in midsummer, such as those forgetful people, the *oldest inhabitants*, do not recollect to have seen, and such seasons are nothing unusual,—if then, once a week, you give the trees a copious watering, it will be an act of generosity which they will not forget, but if planted, according to the foregoing directions, in ordinary situations, nineteen of every twenty of them will live with only the water from the clouds to moisten them. We believe it to be not only unnecessary, but a positive injury to trees, to water them daily.

Transplanting Evergreens.—There are no trees more beautiful than the Hemlock, the White Pine, the Spruce and the Fir—trees of our own hill-sides, and yet, comparatively, but few of them are seen about our dwellings. The reason is to be found, partly in the want of a just appreciation of what is so common, and partly in the idea that this class of trees cannot be successfully transplanted.—This idea is entirely erroneous. In the month of April, 1847, 140 White Pine trees, from 5 to 8 feet high, were transplanted in Exeter, only one of which has died in consequence of the removal. They should be moved in the spring,

before they have made any growth for the season. In the moist climate of England, the summer is said to be the best season for transplanting evergreens, but a variety of experiments have satisfied us beyond doubt, that this is not the case here. the method to be pursued is this: Select trees on the open plain, and with a spade cut down round them, leaving a circle of turf two feet or more in diameter about each tree—then lift the tree and set it upright in the wagon, with the ball of earth unbroken. At the place of planting, a hole is to be made to correspond with the ball of earth, the soil at the bottom made light and the tree set in, and with a little earth thrown on and pressed down, the work is done. Care must be taken to load the roots with stones, or by driving a short stake by each tree and confining it, that the wind does not upset it. Evergreens should not be much pruned. Their foliage is covered with a gummy substance, so that evaporation does not go on so rapidly from them as from deciduous trees, and they do not readily recover their beauty of form, if mutilated. Evergreens should be planted in groups, both for beauty, and that they may be partially shaded and sheltered. Plant then the evergreens of our own forest. In no way can bare walls be so readily screened, or the starched and blank landscape so beautifully variegated and adorned, as by setting here and there little oases of the White Pine and Hemlock.

Transplanting in Winter with balls of Earth.

—The best of all methods of moving trees of any kind, is that suggested in the above title.—The process may be described in a few words:—Late in autumn dig a trench completely round the tree, at a distance proportioned to its size, cutting off all the roots, and dig under the tree, but not so as to loosen it; then dig away the earth on one side of the hole, so that a sled or a drag may be backed down under it; place some straw or leaves in the bottom of the trench, or cover it with boards that the bottom may not freeze too hard. Leave it until the ball of earth is frozen hard, and when there is a little snow, remove it. It will of course be necessary either to dig the hole for receiving it before the ground is frozen, or to cover the place intended for it with straw, that the hole may be made in winter. In the former case, a few loads of soil with which to fill up, may be kept in a barn cellar, or otherwise protected from frost. Great care should be taken to fill compactly every crevice about the ball in setting, and it is well to confine the trees to an upright position, by braces, from the ground against the lower limbs, or by other means, that it may not lean when the frost comes out of the ground in spring. By this process, we have known Elm trees of 12 and 18 inches in diameter, and Hemlocks, 25 feet in height, removed with perfect success. Indeed, if the work is done with skill and care, the tree on *awaking* in spring, will scarcely know that it has changed its place, and will soon become entirely reconciled to its new position. In this mode little

pruning is necessary, and most of the top may be saved, as the greater part of the roots may be preserved.

The weight of an Elm tree a foot in diameter, with a ball of earth 6 feet across and 18 inches in thickness would be probably five or six tons, in order to execute the work properly, a set of ropes and pulleys would be found convenient. Trees of 6 inches in diameter, may be readily removed with a yoke of oxen, and the implements commonly at hand.

In conclusion, we would say to all, *plant trees*, let every young man plant trees that he may have something ever near to bring back pleasing recollections of his youth—something when he is an old man that will seem of his *own age*, and sympathize with him, and look on him with a familiar face—that he may not feel quite alone among a new generation. Let the *old* man plant trees. They will perhaps be beautiful in his own time, and entice him to remain longer where there is still something left to interest him, and where he may still be useful—and at least they will keep alive in the minds of men the memory of one who lived not for himself alone. For the Committee, H. F. FRENCH, *Chairman. Exeter, N. H., April 4, 1849.*

.....

TREE VIOLET.—I am told by every one that this plant is herbaceous, and differs little from the Double Dark Blue Violet. Now, I have always been of a different opinion; to support which, permit me to give you the following extract from Mrs. Loudon's "Flower Garden."

"The Shrubby or Tree Violet (*V. palmaensis*), a native of the Canary Isles, is a very handsome plant, growing about two feet high, with a shrubby stem and large purplish flowers. It is usually kept in a green-house in England, where it flows from May to July."

And in Loudon's Encyclopædia of Plants, (page 1186,) it is similarly described; but with an addition, that it was discovered in 1830, by P. B. Webb, a traveller in the Canaries, &c.

Have any of your correspondents seen, or do they possess a plant answering to the above description? *M. Columbia, South Carolina.*

.....

ANSWERS TO CORRESPONDENTS.

COVERING HALF-HARDY PLANTS.—*A Tyro*, (Pittsburgh.) Always remember that what is most needful is to guard the plants against sudden changes of temperature, and above all, sudden *thawing* after frost. Therefore, shade them from the sun, either by covering them with a barrel or box (raised a few inches on the north side to admit air) or with branches of evergreens or litter. Cedar tops or branches of evergreen trees are the best and simplest covering when they are to be had, and when they are not, corn-stalks, salt hay, straw, or litter, will do instead. Bend down the long shoots of roses before covering them—and if

they are climbers, leave them on the trellis, but do not bind them tightly with straw or any other covering, lest they should be *smothered*. Carnations and Tea-roses may be kept in the open border, where they grow, by covering the beds with a common board frame, partly rooted with glass, and partly with boards. Over the top throw some straw, which should be removed and the plants aired two or three times in the winter, when there is no frost. The canes of Antwerp Raspberries, in localities where they are not quite hardy, should be bent down and covered with two or three inches of soil.

PLANTS FOR ROOMS.—*A Novice.* The following half dozen plants will succeed well in your windows, and bloom freely, Chinese Primrose, white and purple, Chinese Azaleas, fragrant Daphne, *Laurustinus*, Striped Abutilon. If you wish them to thrive well, choose a mild day once in a week or ten days, turn the pots on their sides, and thoroughly syringe the foliage, so as to cleanse the pores of the leaves. Hyacinths, in pots, give a great deal of pleasure with little trouble in winter.

CELERY.—*J. F.*, (Rochester.) We suppose the great value of salt to celery, is to enable the soil to attract and hold *moisture*, which this plant especially requires. (Your letter was mislaid, or you would have had an earlier answer.)

GRAPES IN FRAMES.—*Ibid.* We doubt your success with Black Hamburgs in common hot-bed frames. There would not be *atmosphere* enough for the vines. But by raising up rough frames, (say 6 feet high at the back) and using the hot-bed lights after they were no longer wanted, you may succeed at little cost in growing good grapes. See account of a frame of this kind, with cut, vol. 1, p. 270.

VENTILATING HOUSES.—*A Subscriber*, (Waterloo, N. Y.) Emerson's Ventilator is the best yet invented, you can see this excellent means of warming in operation at 351 Broadway, N. Y.

GREEN-HOUSES.—*O. P. Q.*, (Bennington, Vt.) The best angle for the roof is 45° (exactly half way between a perpendicular and a horizontal line.) It should never be less than 34°, or it will both be leaky, and defective in catching the rays of the sun.

PEAR TREES.—*B. Johnson*, (Boston.) Your trees do not thrive because the soil is unsuitable—it has been exhausted by long cultivation. Dig in 5 or 6 shovel-fulls of pulverized bones, and a good dressing of rich manure or compost to each tree immediately, and in the spring give a supply of ashes. Cover the soil next spring with a mulching of straw or salt hay, and keep the trunks of the trees sheathed all the year with straw, if you wish to prevent the blight.

TRANSPLANTING.—*Querist*, (Roxbury, Mass.) Freezing does not hurt roots of hardy trees, if they are covered closely from the air, and kept so

till they are thawed. If you cannot get all your trees replanted before the winter commences, bury the roots in a trench, in a sheltered place, pressing the earth firmly about its roots. Here they may lie till the spring opens without injury.

OLD FRUIT GARDENS.—*W. Smith*, (Baltimore.) The soil is probably full of the larvae of insects. Throw it up in ridges, and leave it exposed to the frost all winter, which will destroy great numbers of them; and if you can get an opportunity in winter, level it and ridge it up again, so as to bring a fresh layer of the grubs to the action of frost.

SALT AND LIME.—Old brine answers perfectly well for slaking lime to make the lime-and-salt mixture recommended last month, for decomposing leaves or peat. If a fresh brine is made, a bushel of salt may be dissolved in as much water as is necessary to take up the salt, and four bushels of fresh lime slaked with it.

. Correspondents, who are subscribers, will receive answers to any queries through this channel, unless in special cases when otherwise requested; and all queries requiring an early answer, must be received before the middle of the month.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this Society, was held on Tuesday evening, November 20, 1849. The President in the chair. It was well attended with visitors who appeared highly gratified with the beauty of the exhibition. This being an occasion for awarding the premiums for *Chrysanthemums*, there were a number of very fine collections of this favorite flower, and many other interesting plants of rare species, among which may be particularly noticed in the President's collection—*Alphelandra Giesbrechtii*, displaying its numerous graceful scarlet flowers; *Pitcairnia*, a new species, with two spikes of flowers of the richest scarlet; *Cestrum aurantiacum* with beautiful flowers of an orange tint; and air plants; *Zygopetalum mackayii*, *Gongora atropurpurea*, *Maxillaria picta*, *Cattleya*, sp., etc., presenting a variety and strikingly singular inflorescence; also, *Strelitzia reginae*, the Queen plant; *Cypripedium insigne* the beautiful Lady Slipper; *Justicia carnea et coccinea*, etc., and a table of *Chrysanthema*. In Robert Buist's display were, some dozen varieties of *Chrysanthema*, one half of which were entirely new, and specimens of *Clerodendron fallax*, *Acropera flava*, *Epacris pallida*, *Erica Willmoreana*, *Correa multiflora rubra*, etc. James Dundas' gardener exhibited, besides an extensive collection of *Chrysanthema*, beautiful specimens of *Habrothamnus elegans*, *Epiphyllum truncatum*, and *Abutilon venosum*. John Lambert's gardener had a choice collection of *Chrysanthema*; and Andrew Dryburgh a small but select collection of plants. James Ritchie a seedling *Camellia* and *Chrysanthemum*, *matricarioides* bearing handsome flowers. Not the least attractive part of the exhibition consisted in the beautiful baskets of cut flowers all arranged with exquisite taste. The display was not lacking in fruits and the more substantial necessities of life, the culinary vegetables. Of the former were seen a dish of Bananas, from the conservatory of James Dundas, very tempting; a display of Pears from the garden of Mrs. John B. Smith, of varieties *Duchess d'Angoulême* of large dimensions; *St. Germain*, *Glout morceau*, *Holland Green*; also delightfully fragrant Quinces. A very large Pear of unknown variety from Iowa, brought by Thos. H. Benton, Jr.; by Mrs. Kreider, some six or eight dishes of *St. Domingo Walnut*, and *Green chisel Pears*; of Apples, John Perkins exhibited the Roman stem, Kaigher's Spitzenburg and other varieties; Samuel Ott, the Newtown Pippin. In the very extensive display of vegetables, by Anthony Felton, were immense Cauliflowers, fine Broccoli

and Celery; and among the President's and John Lambert's were fine Brussels Sprouts and Celery; and by Edward Webster, very large Parsnips, Beets and Celery.

Premiums awarded on this occasion, were:—For the best *Chrysanthemum*, to Maurice Finn, gardener to John Lambert; for the second best ditto, to Ben Daniels, gardener to Caleb Cope; for the third best ditto, to Alexander Parker; For the best seedling *Chrysanthemum*, to Ben Daniels; for the best three specimens of the Hot-house plants, to Ben Daniels; for the second best, to Robert Scott, foreman to Robert Buist; for the best three specimens of Green-house plants, to Robert Scott; and for the second best, to Ben Daniels; for the best collection of plants in pots, to James Bisset, gardener to James Dundas; for the second best, to Andrew Dryburgh; and the third best to Ben Daniels. For the best Bouquet, to P. Barker; for the second best Bouquet, to Robert Kilvington; for the best basket of cut flowers, to Andrew Dryburgh; for the second best, to Ben Daniels. And special premiums of one dollar each to Maurice Finn and Wm. Hall, for baskets of cut flowers; and one of two dollars to James Bisset, for cut *Camellias*.

For the best dozen Pears, (*Glout Morceau*), to Mrs. John B. Smith; for the second best, (*St. Germain*), to the same; for the best Apples, (*Newtown Pippin*), Sam'l Ott; for the second best, (*Roman Stem*), to John Perkins. And special premiums of one dollar, for five Quinces to Mrs. John B. Smith; and of two dollars for five Bananas to James Bisset.

For the best Celery, six plants to Edward Webster; for the second best, to Anthony Felton; for the best Broccoli, five heads, to Anthony Felton; for the best Brussels Sprouts, to Maurice Finn; for the second best, to Ben Daniels; for the best display of vegetables by market gardeners, to Anthony Felton; for the second best, to the same; for the best display of vegetables by Amateurs, to Ben Daniels; for the second best, to Maurice Finn; for the third best, to Edward Webster.

Mr. Hagedorn, the Bavarian Consul, presented a package of vegetable and flower seeds to the Society, and for which a vote of thanks was tendered.

Mr. J. J. Thomas presented a copy of his *American Fruit Culturist*, and for which a vote of thanks was ordered.

On motion, adjourned.

THO. P. JAMES,
Recording Secretary.

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IN a country where thousands of new rural homes are every year being made, how many times do the new proprietors sigh for LARGE TREES. "Ah, if one could only have half a dozen,—two or three,—nay, even a single one of the beautiful elms that waste their beauty by the road side of some unfrequented lane, or stands unappreciated in some farmer's meadow, who grudges it ground room!"

"And is there no successful way of transplanting such trees?" inquires the impatient owner of a new site, who feels that there should be some special process—some patent regenerator of that forest growth, which his predecessors have so cruelly despoiled,—his predecessors, to whom cord-wood was of more consequence than the charms of sylvan landscape.

Though there is great delight in raising a tree from a liliputian specimen no higher than one's knee,—nay, even from the seed itself,—in feeling, as it grows upward and heavenward, year by year, till the little thing that had to be sheltered with rods, stuck about it, to prevent its being overlooked and trodden upon, has so far overtopped us that it now shelters and gratefully overshadows us; though, as we have said, there is great delight in this, yet it must be

part and parcel of other delights. To a person who has just "settled" upon a bare field, where he has only a new house and a "view" of his neighborhood to look at, we must not be too eloquent about the pleasure of raising oaks from the acorn. He is too much in the condition of the hungry man, who is told to be resigned, for there will be no hunger in heaven. It is the present state of affairs that, at this moment, lies nearest to him. How, in other words, shall a field, as bare as a desert, be at once enlivened with a few large trees?

Some ten or fifteen years ago, an ingenious Scotch baronet—Sir HENRY STUART—published a goodly octavo to the world, which apparently solved the whole mystery. And it was not all theory; for the baronet's own park was actually planted with forest trees of various kinds—oaks, ashes, elms, beeches, of all sizes, from twenty-five to sixty feet in height, and with fine heads. The thing was not only done, but the park was there, growing in the finest luxuriance; and half a dozen years after its creation, arboriculturists of every degree, from Sir WALTER SCOTT down to humble ditchers, went to look at it, and pronounced it good, and the thing itself altogether satisfactory.

Sir HENRY STUART's process, though it

fills a volume, may be compressed into a paragraph. First, the greatest *respect for the roots* of a tree, and some knowledge of the functions of the roots and branches; second, a pair of large wheels, with a strong axle and pole; third, practical skill and patience in executing the work.

A great many disciples had Sir HENRY; and we, among the number, bore our share in the purchase of a pair of wheels, and the cost of moving some large trees, that for the most part *failed*. And now, that Sir HENRY's mode has rather fallen into disrepute, and is looked upon as an impracticable thing for this country, it may be time well employed to look a little into the cause of its failure, and also to inquire if it is wholly and entirely a failure for us.

Undeniably, then, the main cause of the failure, here, of the Scotch mode of transplanting, lies in the difference of climate. He who knows how much the success of a newly planted tree, of small size, depends on the moist state of the atmosphere, when it begins to grow in its new position, can easily see that its importance is vastly greater to a large tree than a small one. It is the thirst of a giant and the sufferings of a giant, accustomed to a large supply of food, compared with that of a little child, which may be fed by the spoonful. And when we compare the moisture of that foggy and weeping climate of Scotia, with the hot, bright, dry atmosphere of the United States, we can easily see that a tree at all stubborn, moved by Sir HENRY himself, and inclined to grow, would actually perish from the dryness of the air in mid-summer in our middle states. And such we have found by experiment is actually the case with trees of many kinds, when planted of large size.

We say of many kinds; for repeated experiment has proved that a few kinds of

hardy native trees may be transplanted, even in this climate, with entire success by the Stuart method, or any other that will sufficiently preserve the entireness of the roots.

Fortunately, the two kinds of trees adopted for removal, when of large size, in our climate, are the two most popular and most valuable for ornamental purposes. We mean the ELMS and the MAPLES. Few forest trees have more dignity and grace; none have more beauty of outline than our weeping elms and sugar maples, to say nothing of the merits of other varieties of both these trees. And if the possessor of a new place can adorn it with a dozen or two fine specimens of these, of a size to give immediate shelter and effect to the neighborhood of his house, he can then afford to be patient, and enjoy the more gradual process of coaxing smaller specimens into luxuriant maturity.

The reason why oaks, nut trees, chestnuts, tulip trees, and the like, when transplanted of large size, do not succeed here, where elms and maples do, is that the former unluckily have a few strong, or *tap-roots*, running downwards, while the latter have great masses of fibrous roots, running near the surface of the ground.

Now a tap-rooted tree, even when small, has a much less *amiable* disposition when dug up, and asked to grow again, than a fibrous rooted tree; because, indeed, having fewer small roots, it has only one mouth to supply its hunger, and to gain strength to go on again, where the other has fifty. Hence, though it may, under very favorable circumstances, like the climate of Scotland, overcome all and succeed, yet it is nearly a death struggle to do so in our dry mid-summer air.* It is not worth while to

* We have found that large oaks, when transplanted, frequently live through the first year, but die the second, from their inability to contend against the climate and make new roots.

waste one's time, therefore, in transplanting large oaks, or hickories, in this hemisphere.

And now, having reduced our class of available subjects to elms and maples, let us inquire what is the best method of transplanting them.

The first point regards the selection of the trees themselves. And here Sir HENRY STUART, or his book, would teach many planters a piece of real tree-craft which they are ignorant of; and that is, that there is as much difference, in point of hardiness and power of endurance, between a tree taken out of the woods, where it is sheltered by other trees, and one taken from the open field, where it stands alone, exposed to the fullest influences of wind and storm, light and sunshine, as there is between a languid drawing-room fop and a robust Green Mountain boy. For this good and sufficient reason, always choose a tree that grows alone, in an open site, and in a soil that will allow you to retain a considerable ball of roots entire.*

"How large an elm or maple may we transplant?" Our answer to this question might be, as large as you can afford—but for the great difficulty of managing a very large tree when out of the ground. That it may be done, is now a well established fact; and hence, the only question is as to its expediency.† Trees from 20 to 30 feet in height, we conceive to be, on the whole, the most suitable size.

There are two modes now in considerable use for moving trees of this size; the first is the Stuart mode, to be performed in

spring or autumn; the second, the frozen-ball mode, to be performed in winter.

The Stuart mode is the best for trees of the largest size. In this mode, the roots are laid bare with the greatest care; every root, as far as possible, being preserved. The wheels are then brought up to the tree, the axle made fast to the body, (with a stuffing between, to prevent injury to the bark,) and the pole is tied securely to the trunk and branches higher up. A long rope, or ropes, being now fixed to the pole and the branches, the pole serves as a lever, and the top is thus brought down, while the mass of roots is supported upon the axle. After the tree is properly balanced on the carriage, horses are attached, and it is transported to the hole prepared for it.

This mode is one which requires a good deal of practical skill in the management of roots, and in the whole art of transplanting, though great effects may be produced by it in the hands of skilful workmen.*

Transplanting with a frozen ball is a good deal practiced in this country, and is much the cheapest and most perfect mode for trees of moderately large size; that is to say, trees from 20 to 30 feet high, and whose trunks measure from 6 inches to a foot in diameter. Trees of this proportion are indeed the most suitable for the embellishment of new places, since they unite immediate beauty of effect with comparative cheapness in removal, while it requires less mechanical skill to remove them.

The process of removing a tree with a frozen ball is a simple one, especially if performed in the early part of winter, while

* The best subjects, when they can be had, (as they frequently may in the neighborhood of towns,) are trees planted some ten or fifteen years before in some neighbor's grounds, where they require being taken out, (if you can persuade him of it,) because originally planted too thickly.

† One of the most successful instances of this kind of transplanting, in this country, is at the cottage residence of THOS. PERKINS, Esq., at Brookline, near Boston. An avenue of considerable extent may be seen there, composed of elms 30 to 40 feet high, beautifully shaped, and having the effect of full grown trees. They were removed more than a fourth of a mile, from the seat of Col. PERKINS, with perfect success, and we believe by the Stuart mode.

* We cannot but express our surprise that some of our exceedingly ingenious, and clever Yankee teamsters, have never taken up, as a business, the art of transplanting large trees. To a person competent to the task, with his machine, his oxen and his trained set of hands, an abundance of occupation would be offered by wealthy improvers of new places, to whom the cost of a dozen elms 40 feet high, at a remunerating price, would be a matter of trifling moment.

there is yet but little frost in the ground. In the first place, the hole should be made ready,* and a pile of suitable soil laid by the side of it and covered with straw, to prevent its being frozen when wanted.

Then a trench is dug all round the tree, in order to leave a ball of earth of from six to eight feet in diameter. The trench should be wide enough to allow the operator gradually to undermine the ball of roots, so that at last the tree just stands, as it were, upon one leg. In this condition let the ball be exposed to a sharp frosty night, that it may freeze quite firmly. The next day you approach the subject with a common low sled, or *stone boat*, drawn by a pair or two of oxen; (or if the tree measures only six inches, a pair of horses will do.) The tree with its ball is now thrown to one side; the sled is then placed under the ball on the opposite side; then the tree is righted, the ball placed upon the middle of the sled, and the whole drawn out of the hole. A teamster of very little practice will now see at a glance how to balance his load upon the sled; and once on level ground, it is no difficult matter to drag the whole for half a mile or more to its final location.

After the tree is placed in the hole previously prepared for it, the good soil must be closely pressed around the ball, and the trunk supported in its place, till after the equinoctial rains, by stakes or braces.†

There is no mode for the removal of trees in which they will suffer so little as this; partly because the roots are maintained more entire than in any other way, and partly because the soil is not even loosened or disturbed about a large portion

of the fibres. Hence, though a slight reduction of the top is advisable, even in this case, to balance the loss of some of the long roots, it is not absolutely needful, and in no case is the symmetry of the head destroyed; and the possessor of the newly moved tree has the satisfaction of gazing upon a goodly show of foliage and shade as soon as June comes round again.

Those of our readers who are groaning for the want of trees, will see by these remarks that their case is by no means desperate; that, on the contrary, we think it a very hopeful one; and that, in short, if they can afford to expend from two to ten dollars per tree, and can get at the right kind of subjects in their neighborhood, they may, if they choose, transform their premises from a bleak meadow to a wood as thick as “Vallombrosa’s shade,” before the spring opens.

And now, one word more to those who, having trees, are impatient for luxuriant growth; who desire to see annual shoots of six feet instead of twenty inches; and who do not so much care what it costs to make a few trees in a favorite site advance rapidly, provided it is possible. What they wish to know is, can the thing be done?

We answer, yes. To make a hardy tree* grow three times as fast in a summer as it usually does, (we speak now, of course, of trees in common soil,) it is only necessary that it should have three times the depth for the roots to grow in, and three times the amount of food for its consumption while growing.

And, first of all, for very rapid and luxuriant growth in our climate, the soil must be deep—deep—deep. Three feet of trench-

* Especially should the soil, in the bottom of the hole, be well trenched and manured.

† We may here add, that besides elms and maples, this mode is equally successful with *evergreens* of all kinds. We have seen white pines and firs, of 20 feet high, moved so perfectly in this manner that they never showed the least mark of the change of place.

* We say a *hardy* tree, because every arboriculturist knows that to promote extra luxuriance, in a tree not perfectly hardy, increases its tenderness, because the wood will not ripen well, like short jointed growth; but there is no fear of this with elms, oaks, maples, or any perfectly hardy native trees.

ing or subsoiling is imperative; and we have seen astonishing results, where places for trees twelve feet broad and five feet deep have been prepared for them. If any one of our readers will take the trouble to watch an elm tree making its growth next season, he will notice that, if the season is moist and cool, the shoots will continue to lengthen till past mid-summer; but if, on the contrary, the season is a dry one, all growth will be over by the middle of June. Why does the growth cease so early in the season? Simply because the moment the moisture in the soil fails, and the roots feel the effects of the sun, the terminal buds form at the end of each shoot, and then all growth for the season is over. Deepen the soil, so that the roots go on growing in its cool moist depths, and the tops will go on lengthening despite the power of the sun; nay, so long as there is moisture, by the help of it. And hence, the length of time which an ordinary tree will continue to

grow, depends mainly on the depth of the soil in which it is planted.

If any skeptic wishes to be convinced of the effects of deep and rich soil upon the luxuriance of a plant, he has only to step into a vinery, like that in Clinton Point, (described in our October number,) and see, with his own eyes, the same sorts of grape, which in common soil, even under glass, usually grow but six or eight feet high in a season, and with stems like pipe-stems, growing twenty or thirty feet in a single season, with stems of the thickness of a man's thumb, and ripening delicious fruit in 14 months after being planted. Now, exactly the same effect may be produced by deepening and enriching the soil, where the elm or any other hardy ornamental tree is to be planted; and we put it thus plainly to some of our readers, who are impatient of the growth of trees, that they may, if they choose, by a little extra pay, have more growth in three years than their neighbors do in ten.

A NOTE ON THE CURCULIO, AND ON COVERING GRAPE BORDERS.

BY H. W. S. CLEVELAND, BURLINGTON, N. J.

A. J. DOWNING, Esq.—I perceive that Mr. LONGWORTH is shocked at my presumption, in basing an opinion upon a single year's experience. If I asserted more than my experience will sustain, I will plead guilty to his charge; but on looking over my letter (which he has ridiculously misquoted,) I find no assertions made, except that paving is not always a preventive of the curculio, and that the insects are often of a wandering habit; and as I plainly state my reasons for coming to these conclusions, it is in every reader's power to judge for himself of their value.

Mr. L., however, asserts that the safety

of the pavement arises from the instinct of the insect, which will not deposit its egg over a pavement, because the young, when they fall to the ground, would be unable to secure winter quarters.

If this is true, how comes it that my whole crop was destroyed when the ground was paved, as I described, in such a manner that it was impossible the insects of the previous year could have come out of the ground under the tree? Did instinct tell them that the pavement would be removed before another year?

Of the utility of paving, in some cases, I have no doubt; as I know of plum trees in

paved yards, surrounded by houses, which bear and ripen abundant crops; but I still venture the opinion that paving is not in all cases effectual.

I will now give you the result of another experiment, which may be of use to some of your readers; but I warn all that it is only the experience of a single year.

I last spring hauled a quantity of fresh tan from a tan-yard, and put a heavy dressing of it on the vine border of my grapery. The remainder, some six or eight wagon loads, was deposited in a heap a few feet from where an old Isabella vine was growing. A few days since, on removing this heap, I found this vine had sent roots up

into the heap more than a foot from the ground, which had spread their fibres through it in every direction. Some of my neighbors had cautioned me very strongly against using the tan on my vine border till it was thoroughly rotted; but I never have had so fine grapes in my house as the past season. And since seeing how this heap had become filled with roots, I am strongly inclined to attribute their excellence to its use; and will venture the opinion that fresh tan is a good manure for grape-vines, though I advise those who think differently not to use it. Very truly yours,

H. W. S. CLEVELAND.

Oaklands, Burlington, N. J., Nov. 6, 1849.

WINDOW GREEN-HOUSES.

[FROM BECK'S FLORIST, LONDON.]

You ask me the particulars of my "window green-house," in which, as I have been sufficiently successful not only to please myself, but to have imitators because of that success, I have great pleasure in telling you—no, not you, but your readers—how I manage matters. I had last season about 900 blossoms on 35 plants, and as I am not aware that the care of them took up time that ought to have been otherwise employed, and was a pleasure all through the year as well as in the blooming season, I really should be glad to see the system more general. I cannot promise that all shall succeed who may try it; but I think I can show that those who do not may charge themselves with their failure.

Probably most of your readers have occasionally noticed a most flourishing tree, covered with healthy blossoms, in an old broken teapot in some cottage window; and some may have thence inferred the uselessness of care and science in the treatment of plants. I do not draw that conclusion from the fact. For look at that sickly thing in the next window to it. How much better and healthier the flowers look in the

one window than the other! And yet the houses are built on the same plan, and stand next to one another; and therefore the inference I should draw is, that there is a right way and a wrong of growing flowers; and, further, that a person who uses the right will succeed under great apparent disadvantages. And as a closer inspection always shows the difference to be in the person and not in the place, and that such persons rarely spend much time or pains upon their pets, and yet everything seems to succeed with them, it is plain that those who will follow their example will make their window plants flourish as well as theirs do. And this is so true, that if a person will not make up his mind to act upon the right system when he knows it, I cannot recommend him to keep plants indoors, many or few, unless for the wholesome discipline of disappointment.

Now I believe, sir, you will agree with me, that the right system for plants, as for children, is the natural system; and that nostrums, and secrets, and tricks, are, for the most part, not only pernicious but silly. As a general rule, and under similar cir-

circumstances, what will grow a good cabbage will grow a good Pelargonium or Fuchsia. And that the apparent departures from this rule are only examples of it, and depend on common-sense reasons, drawn from the nature or the original climate of the species of plant.

And the natural system may be comprised under two heads: 1, not to *let* your plants suffer by neglect; 2, nor to *make* them suffer by interference. If many people let them dwindle or die by forgetting to water them at proper times, or to shelter them from excess of sun or of cold, others, not less numerous, think their flowers can never be thriving unless themselves are doing something to make them thrive. And so they bring them to their end, or to pale, sickly, scraggy things on stilts, that can never repay their owner for the trouble of rearing them.

The application of this system to the culture of the Pelargonium is somewhat hazardous of the charge of presumption in such a person as myself, because I suppose you have already given directions for that in some of the numbers of *The Florist* I have been so unfortunate as not to see; and anything I were to say on the subject that you have already said would be superfluous, and what might differ from your instructions, I am persuaded would be erroneous. Only I would repeat, that any person who will use common sense and common care may succeed in the culture of any of our ordinary fancy flowers.

Of these, by much the most useful for a window, and which I expect will always retain its place in this respect, is the Pelargonium; and, as I have no room to spare, I confine myself to this. You will believe I have no spare room when I tell you that I am a curate, with a family of eight grown-up persons, in latitude 53° 29' 30" on the Greenwich meridian, in an agricultural village that has no house in it larger than a cottage, and mine is no way remarkable among its fellows, of which it is far from being the largest. Yet, without any other convenience than a cottage window, I grow, in very creditable condition, about 30 varieties (a plant of each) of the best Pelargoniums: enough to make my room a blaze of beauty during the whole blooming season.

Now, on the supposition that my thirty plants are established in their pots, and hardened afterwards in the open air, and that it is time to bring them in-doors (this year it was on or about old Michaelmas-day I housed them,) I will tell you where I put them, and how I treat them when there.

I have no south or southeast window in the house: the aspect is southwest; but there is a small room in the front, of which, as it is my dressing-room, I can appropriate the whole window to my plants. And I have done it in this way, in order to make the small space hold as many pots, give them as much light, and bring them as close to the glass, as possible. The glass of the window is 3 feet 9 inches broad, and of a proportionate height. This, therefore, is the breadth of the stand I had made in the ordinary way, but as light as possible, and with six shelves, channelled along the middle for the water to run out of the pots. As the plants are of all sizes, and more of them small than large, the four lower shelves are 4, the fifth 5, and the sixth 6 inches broad; the bottom one 3, the rest 4 inches high, which, with 3 inches allowed for standing in its pan, make the entire height 2 feet 2 inches.

The frame stands in a water-tight wooden pan, 3 feet 10 inches long by 2 feet 4 inches broad, and 3 inches deep, with a hole and plug in one corner to let off the water, so that I can water my plants as freely as I like without wetting the room or making a mess. The whole stands on two three-legged tressels, and the waterpot is kept underneath, so that the water shall be always of the same temperature as the room, a point I have found to be of great importance to the well being of the plants.

This stand, painted, cost 15s. And as I began collecting gradually, bought but few, and exchanged with friends, I had a very good collection before I had spent £2 upon my hobby. Since then I have been more expensive, as I will not keep any but first-rate varieties, and unhesitatingly condemn a flower that displeases me, whatever its price in the market. Yet I believe I may challenge any other hobby, far less useful or ornamental than this, on the subject of cost. Careful as I am bound to be of my

expenses; I should expect an acquittal from the charge of extravagance even from those who do not partake of the taste for these things. And I am sure that the pleasure and the *profit* have amply repaid my little outlay; for profitable it is. Anything that decorates home, and concentrates a man's amusements and attractions round his own hearth, and unites the rest of his family with him in them, is an avoidance of expense to him, and is worthy of encouragement as a benefit to society. And among these things, gardening, within legitimate bounds, has always deservedly held a high place. And in this I am sure "window gardening" may fairly claim its little modicum of praise, as being least liable to abuse; unless, indeed, the bedroom be made, as I have sometimes seen it, the depository of plants, for then they are really injurious to health.

When my plants are on the stand, I do not find they *require* looking to every day, though even if they did, their wants are so few, and so easily supplied, that it would be but little trouble.

1. Light is their greatest and invariable requisite; and this is the chief difficulty to give them in a sash-window when there is more than one row of them. A short and simple rule will, however, lessen much of the difficulty; for they require light *in proportion to the rapidity of their growth*. Consequently the back rows, as having least light, should be kept driest, in order that they may grow slowest; and when they show a tendency to throw out too long leaf-stalks they should be stinted in water and placed nearer the window. Also, when they bend forwards, it is a proof they are having too much water in proportion to their distance from the glass.

2. They want air, and therefore I generally open the window once a day, even in the winter's frost; but I do not think it so necessary as is by many supposed. It seems to be of more service in keeping the temperature of the room equable than for the admission of fresh air. When the wind is in the east it almost always hurts them; and a thorough draught, of which many persons are far too careless, is especially to be eschewed. But I have seen a plant in the window of a farmhouse, and of a very

ordinary kind (Lord Mayor,) which, for growth, number and perfection of blooms, and striking general appearance, would have deservedly attracted attention on a field-day at Chiswick. Yet this plant had never had a breath of fresh air for six months.

3. My impression about water is, that professional florists are too much afraid of it. If a plant is close to the window, the rapid growth caused by superabundant water is not always a loss, nor does it always deteriorate the soil in the pot so much as is supposed. In cottage windows plants often thrive, grow stout, bloom profusely, and with blooms in truest shape and colour, though standing, and having stood, in saucers of water for weeks or months. My cuttings, if well rooted, I always set in pans of water, even in the autumn, till they are as large as I wish them to be before the winter, taking care to place them in the window itself while they are so treated. Even the green moss on the mould and round the pot, unsightly as it is, and betokening slovenliness (and therefore I never suffer it myself,) I fear is slandered when said to kill the plant. At least, I have seen a plant perform very well for years, though covered with it. Don't be talked out of your saucer of water, Mrs. Wilkins, when they tell you you will drown your Geranium, and that the air cannot circulate about the roots if you keep it so. *There is air in the water*; and you do not wash away the goodness from the mould half so much as by watering it from the top, and letting the superfluous water run off and carry the strength of the soil with it. Only remember, you are "tendering" your plant, and that it is more likely to be touched with the frost or to grow "leggy." I believe I have gained by giving my plants more water than my neighbors do. One winter (it was a very mild one, and the plants were growing slowly all through it) I watered them freely with a rose over the leaves, and never had them stronger or healthier. From seeing its evil effects elsewhere, I do not think I shall do so again, but I am glad, for the experiment's sake, I did it then, though I did it merely in ignorance that it is dangerous, and not for the purpose of experiment.

4. Respecting artificial heat, I have never yet needed a fire for them. It is true, the room is between two others, and so has no outside wall but the window front. If the frost is only moderate, I draw a green baize curtain between them and the window; if severe, I draw two; if a "*Murphy's*" frost occurs, I shall *burn a lamp*. Even one small lamp in a small room makes a considerable difference in the temperature.

5. If any need larger pots before they flower, I am careful not to break the ball of earth, nor do I ever disturb the roots except at the September repotting, when I give them plenty of drainage and a compost of black heath-sand, rotted turf, and *completely decayed* stable manure, in equal parts.

In all this there is very little expenditure of time, trouble, or money; and the elegance and harmlessness of the pleasure obtained is an ample recompense for what is incurred. Besides, I have the satisfaction of replacing the rubbish often nurtured in the cottage windows of my neighborhood with similar objects of a kind more worthy of the attention bestowed upon them. And I confess I am one who take as much delight in seeing a fine flower in a neighbor's window as in my own.

* * * In my former letter on flowers in windows, I omitted one or two things which may be useful knowledge to some of your readers. In such a situation they are peculiarly liable, especially in dry and hot seasons, to be infested with green fly (*Aphis*.) And there are few things about which I am more frequently asked than the best method of keeping clear of them. Probably no care will prevent these insects appearing at times, though whatever tends to keep the plants healthy and strong, tends at the same time to prevent the ravages of fly; for they are most troublesome, in general, upon a weak plant, or upon one drawn up by close packing, want of light, or superabundant water, and of which the leaves are long stemmed, and of a pale sickly green,—a condition of things very common with us window gardeners, and very necessary to be quickly attended to, as the fly is sure to attack such, and increase the evil. Cuttings that are long in rooting themselves are sometimes prevented by them from

striking at all; the whole of the sap manufactured by the feeble powers of the nascent plant being extracted. Now, there are many persons who possess the means of employing the usual remedy—tobacco smoke, but are not aware of its efficacy, or how to apply it. Such as have a cucumber frame, or any other *box* large and deep enough to place over their whole collection, should, when fly appears, except it be in frost, set them out of doors under such a covering; and on a brick therein lay a red hot cinder or two, and on them a quarter of an ounce of tobacco, not too close to the plants for the hot smoke to burn them, and cover all up close for a quarter of an hour or twenty minutes. On removing the covering, every fly will be found to have perished.

There is, however, another very effectual way, and which, in a collection not exceeding a score of plants, will not occupy more time or labor than the foregoing. Take up each plant separately, and either with the breath, or, if you are afraid of your lungs, with a bellows, *blow* them off. It will require a brisk puff, for they cling most tenaciously; only let no one who suffers them to remain expect a crop of flowers.

But now respecting the remedy for these drawn-up and pallid weakly plants. My friend Mrs. Wilkins, when she sees any symptoms of this, puts hers out of doors for a time; and her neighbors, seeing how well this answers its purpose, follow her example, and theirs all die, and they wonder how it is they are so unlucky. The fact is, they think the mere doing it will ensure success. While one forgets them, and leaves them out for the night, and a slight morning frost ends the matter; another places them out when there is wind, even an east wind; a third exposes them to the sun; all these errors must be avoided, and, when they are, the plan will generally succeed. I have now (Dec. 13) a large plant in training for a Christmas bloom, which a fortnight ago showed nothing green about the leaves except the ribs; but now, by exposure to the free open air out of doors, presents the appearance it usually would in April.

But there is another way which, until tried, would be supposed to produce the

very opposite effect, namely, to plunge them in a hot-bed for a few days. When a plant, spindling and weakening itself, is subjected to bottom-heat, the effect is astonishing. The growth upwards is immediately *checked*. The branches swell, instead of lengthening themselves, the leaves recover a deep and healthy green; and not till these effects are produced does the upward growth recommence, when they should be removed again.

One of the most common mistakes by which pale leaves are produced is by stimulating applications, by liquid manure, or placing a coating of manure on the top of the pot. The effect of this is not dissimilar to that of giving gin to a child. The minute and tender rootlets cannot bear the strong excitement. They perish, and the plant soon after follows their example, if the pernicious system be persevered in. Eschew all impatient desire of stimulants. Give entirely fresh mould once a year, and let that, if possible, be maiden, and, if you please, pot off into smaller pots for the winter, as I do, to save room; only remembering to re-pot into larger ones in the spring, *without breaking the ball of earth*. Be sure also to remember the drainage, to prevent the soil becoming sodden and sour—not a mere piece of oyster-shell over the hole, but a handful of broken pieces of pot put in carefully.

One word more about training. One who recommends such a thing must expect to hear a good deal of well-meant nonsense about suffering the plant to grow as nature meant it to grow. Nature never meant anything. But the AUTHOR of NATURE has imposed training and discipline as a *duty*; nor is any person or thing ever brought to the highest perfection it is capable of without restraint, and pruning, and direction, from a fostering hand. Not an apple tree or a currant bush will long repay the use of the land they grow on, if their owner forgets the duty incumbent on him in virtue of his descent from Adam, on whom the sentence was pronounced. Thorns, and thistles, and barrenness will soon be found in all things to be the point to which, if left to themselves and *to their nature*, they will tend. Cultivation is necessary, in order to exhibit the good of which every sub-

lunary nature is capable. Never speak slightly of training, even in a Geranium. It may teach you a lesson respecting yourself, and the persons committed to your care by the providence of God; and it will amply repay you for your trouble in its floral results. Persons who have never seen a trained plant are incredulous of its effects. The gardener of a country gentleman in this neighborhood who had three conservatories under his care, would not believe, on my testimony, that a single stem could be made to support from eight to sixteen or twenty flowering branches, arising from nearly the same height above the pot; but endeavored to persuade me that it must be done by cheating, and putting many plants into one pot. The method, however, is very easily practiced, and is well worth any person's employing on at least a few of his most striking and useful sorts. The principle is this, that no more branches can thrive than can be supplied with a free circulation of air, so as not to interfere with each other. And the mode by which this is insured is equally useful in keeping the origin of the branches low, so as to make a compact bushy plant. And it is so simple, that you may do it, Mrs. Wilkins, as well as Mr. Dobson himself. If you have a nice young healthy and stocky plant to operate upon, it is better, but not absolutely necessary. If you have, pinch off its head; and when it breaks out at the sides, either *peg* down the side-branches as nearly straight out as you can without tearing the joint, or *tie* them down, which must be done thus: tie a string tightly round the pot, just under the rim; and under this pass a loop of thick worsted over the end of each branch, to keep it down in the position you wish it to grow in.

When the branches reach out as far as you wish them, a little beyond the rim of the pot you mean the plant to flower in, pinch off their ends, and, after they have pushed out their eyes into branches, you may remove the strings, and you have thenceforward a *trained plant*, to last you many years, and each year better than the last; which only needs cutting down in summer after flowering, and ordinary care afterwards, to be a perpetual beauty in the



Fig. 94.

blooming season. I have now an old Sir Robert Peel with thirteen such branches springing from its rough wooden arms, and plenty of elbow-room for each; which, at eight blossoms to each, will give a total of above a hundred blossoms; and I expect

nearly as many from my Aurora, which some say is the handsomest *Geranium* grown. Moreover, if you do not care about the cuttings, you may, by setting it out in the open air after it has flowered, and protecting it from wind and sun for the first day or two, and bringing it in again when sufficiently hardened, have it flower again, and often as well as at first.

And now, in conclusion, let me recommend every cottager's wife to have a plant or two in her window, but *not* in the bedroom. The very trouble they give, and it is but a little, is beneficial, for it exercises *attention*. The care they require tends to produce neatness in other things; and the pleasure with which they repay the care that is given them is a refined, a domestic, and an inexpensive pleasure, and is a means of elevating the tastes and of rendering home attractive.

A NOTE ON VINE BORDERS.

BY J. L. COMSTOCK, HARTFORD, CT.

DEAR SIR—The doctrine advanced by Dr. STEVENS of New-York, in your number for December, 1849, is so entirely new in vegetable physiology, that I hope he will excuse me for inquiring how far its truth has been proved by experiment. The principle in question is involved in the following quotation: "Trees grow perfectly well in cities, with their roots under stone flagging, impermeable to every influence from the sun and air, but not of heat. What use do the roots make of air when they get it? Air, at the roots of plants, is as much out of place as in the stomach and bowels of animals. What little air is about the roots of plants, and in the alimentary canal of animals, is only useful as an agent of decomposition."

Now Dr. STEVENS is the first and only authority I have ever consulted, who de-

nies that the roots of growing vegetables, of whatever kind, do not require the influence of atmospheric air. RAY and BAYLE, long before the discovery of oxygen as an element, ascertained that the seeds of plants would not germinate without the presence of *heat, moisture and air*. And SCHEEL, soon after that discovery, found that the vital principle of seeds remained dormant unless they were exposed to the united influence of heat, moisture and *oxygen*. More recent experiments have confirmed this truth; nor will seeds, grown in nitrogen, carbonic acid, or in a vacuum, unless vital air, however small in quantity, be also present.

It is not requisite to show here what chemical changes are evolved during the process of germination, or "what use the roots make of air when they get it." That

seeds require air for their growth, it is believed Dr. STEVENS will not deny; nor should I have thought it necessary to state the above proofs, except for the analogy which germination bears to the growth of plants. The question is therefore merely, whether the healthy vegetation of plants require the presence of atmospheric air at their roots.

It is well known to Dr. S. that, under the common pressure of the atmosphere, no air-pump has been so perfect as to produce a complete vacuum; and also, that such is the permeating subtlety of this elastic fluid, that the cells of all porous substances which have been examined are found to contain more or less air.

The depth to which air penetrates the ground, it is true, must depend on the nature of the soil. Adhesive clay, pressed down and kept moist, would admit but a small quantity when compared with the more porous sand or gravel; but of whatever materials the soil may be composed, there is no doubt that the air finds its way through it, to a depth equal to that of the roots of any healthy vegetable of whatever kind.

The following example will show how small is the obstruction of common garden soil to the permeation of the atmosphere: A well is situated four rods from the pump; the water being drawn by means of a tube three feet under ground, and descending twenty-seven feet into the well. On the top of the brick surrounding the well is laid a flagging stone, entire, and say four inches thick, and four feet square; and on this a quantity of earth sufficient to produce grass, so that no signs of the well are apparent. And yet so free is the access of

the atmosphere to the water, that the fluid is delivered by a common iron pump, (which demands atmospheric pressure,) situated four rods from its source, and thirty feet above its surface.

This example is stated to show that, although "trees grow perfectly well in cities, with their roots under stone flagging," yet this fact by no means proves that the air is not always in contact with their roots. On the contrary, it is well known that if seeds are buried in the earth, to the depth of several feet below the surface, so that they are entirely beyond the reach of the oxygen of the atmosphere, they will never germinate, but may still retain their vitality, even for centuries; hence it is common for alluvial soils, from deep excavations, to produce plants, when exposed to the vivifying influence of the atmosphere.

We know, also, that if the roots of growing trees be covered with several feet of soil, that they certainly perish in a year or two. That this does not arise from the want of heat, appears, from the fact that clay, of an equal depth, is more destructive than sand,—the latter being most permeable to the air; and that the destruction is not caused by the pressure, will appear when it is known that the same, or even double the weight of broken stones, would not in the least affect either the growth or the bearing of the tree.

We might bring many other facts, to show the absolute necessity of common air to the roots of plants for healthy vegetation. But not to protract this letter, I will only add, that I remain the humble servant of both Dr. STEVENS and the Editor.

J. L. COMSTOCK.

Hartford, December 10, 1849.

A NOTE ON VINE BORDERS.

BY R. L. COLT, PATERSON, N. J.

DEAR SIR—I have read with great attention Dr. STEVENS' communication in your December number on vine borders, and I agree with you, that with our warm and penetrating sun, the borders recommended by Mr. HOARE, for England, will not answer for our country; and, therefore, I do not think the shallow borders Dr. STEVENS recommends will answer with us.

I tried, two years ago, a small house on HOARE's plan, 20 feet long, 12 feet wide, with 10 feet back wall, covered with glass, and heated with a flue; it was dug out, as a pit, 3 feet deep, enclosed with a dry stone wall, and filled with the materials, as ordered by Mr. HOARE. I then planted my vines inside. This is, in truth, Dr. STEVENS' pot system. This did well, but not so well as we expected; not so well as vines, of the same kinds, planted in outside borders. They were watered from time to time with pond water, and occasionally with whale oil soap-suds, with an addition of potashes—the best manure for grapes. This fall my gardener not being satisfied with the growth of the vines, asked permission to open an outside border. We did so, in a trench two feet deep by five feet wide, and found the roots of these inside vines had extended through the crevices of the stone wall, beyond the five feet,—showing plainly, though but of two year's growth, that HOARE's compost was not all the vines wanted.

We are now making an outside border to this house, five feet wide, sunk two feet below the natural surface of the ground—such as does not require a drain. We fill in one foot with oyster shells, old broken bricks, old mortar, &c.; then a slight covering with broken charcoal; then one foot of

a mixture of old leather, old woolen rags, some lime, some wood ashes, some broken bones, some slaughterhouse manure,—all well mixed, and covered with a half inch of plaster of paris and coal dust; then six inches of a rich compost of bone dust, (the bones dissolved with sulphuric acid,) old marsh mud, night soil, and plaster of paris, well mixed; then a foot of well decomposed turf from an old pasture. In this last we plant our vines, or allow those within the house to extend outwards, through openings we made in the walls of the present house. Two years hence, we will extend the border five feet wider, and some depth of four feet, by putting dead horses, bones, leather, &c. &c., with a due proportion of lime, plaster and wood ashes—the last not least. In this way, from time to time, we widen our border; for the grape is a gross feeder.

I wish you and Dr. STEVENS would come and inspect my vineries next summer. I feel confident you would be pleased with the results.

I have no doubt that the doctor's plan for giving air by air-ducts, through the borders, is a good one, and thank him for the suggestion, which I will adopt in the borders I am now making. R. L. COLT.

Paterson, N. J., December 10, 1849.

P. S. Past all question, the best grapes I raised this year were *Victoria Black Hamburgs* and *Fontainbleau Chasselas*, grown under glass, without fire; the vines planted in the house, with access to an outside border ten feet wide, three feet deep—the inside border same depth. The grapes, for colour, size and flavor, decidedly superior to those cultivated with fire. I am now making a cold vinery, of 230 feet by 14.

CRITIQUE ON NOVEMBER HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

Cottage Villa of Mr. Rotch—Frontispiece.

—Here is something that I like—A sensible house, and in very good taste; embodying in the main, the essentials of good house arrangement, as far as it goes, and adapted to the purposes for which it was intended—an unpretending, quiet cottage of the *first* class. Still, it is not complete, and may be somewhat altered and extended with advantage; and with your leave, MR. EDITOR, I'll pass a word or two upon it. In point of internal arrangement, particularly, if not in outside appearance, for a one and a half story house, its hipped roof is objectionable, in cutting off one third of the chamber room; a serious drawback to the convenience and pleasantness of these upper apartments, besides giving to the elevation of the house a *squat* appearance. A bold gable on each side would add to it both light and character; while the deep frieze jetting over the walls would give shade and coolness in summer to the chambers. The roof of the front porch is also too high, running its point far above the pinnacle of the house itself, this making it the superior instead of the inferior appendage, the latter its proper character.* The veranda, light and tasteful as it is, should extend no further than the walls of the house, unless it return down the sides, detracting as it now does from its completeness on a side view, and presenting a defective appearance in front. The dormer windows also, in the roof, afford imperfect light to the chambers, besides defacing their proper figure, and subjecting the roof to leakages and expensive

repairs. The chimneys are graceful in their structure, and add to the agreeable expression of the whole. The skylight—as it appears in the view—at the apex of the roof, is appropriate; but the bailustrade below it, is entirely useless, and on, or off, is a matter of fancy only.

Internally, the dwelling is incomplete, for I take it there is no want of ground on which the building stands. It is too cramped. An ample family bed-room is wanting on the main floor. People grow old—sometimes—and a sleeping room adjoining a parlour or sitting room, is, for really *comfortable* housekeeping, indispensable. What is now the kitchen, or the library, could be converted into a sleeping room; the other room of these two not so occupied, should be changed into the dining room, the library take the place of the present dining room, and an ample kitchen, with large, shelvy closets, drawers, and cupboards, and a scullery, and a man-servant's bed-room and a bathing-room on the same floor, should be added by way of wing, not omitting a flight of back stairs to the rear chambers, a wash-room attached to that; a wood-room beyond, if a part of the cellar be not appropriated to such purpose, and still further, either in line, or by an angle adjoining or detached, should extend the other outhouses belonging to a complete northern country dwelling, and which always gives to it that air of repose and comfort to the eye, as well as practical convenience in living, indispensable to a well ordered house arrangement. Such additions would exceedingly improve this neat and tasty design of a "cottage villa."

* On looking at this design by Mr. DAVIS, we find our correspondent has mistaken the plan. This centre portion, which he calls the porch, runs through or across the whole house, and the architect is correct in making it the highest and boldest part of the composition. ED.

It is passing strange that people are so prone to build under-kitchens to *country*

houses, as many are in the habit of doing. In cities, where land is dear, and nothing to see out of the house but brick walls, I can easily understand why they who dwell there are content to spend half their indoor lives, under ground; but in the country, where fine air and sun-light can always be had for the asking, I can divine no good reason for going below, other than that "the architect so plans it."^{*}

Very many of the otherwise prettiest models that I have seen, for a country house, are utterly spoiled for this defect; and I am only astonished that any one at all acquainted with the philosophy of rural life, will for a moment tolerate it when constructing his own dwelling.

One probable cause why under kitchens are so frequently adopted in the country, is the attempt to gain two or three different *fronts* to the house, thus yielding the great desiderata of *convenience* and *home* expression—the two chief objects of a country house at all—to a fanciful and false taste for *appearance*, totally forgetting that a dwelling should look *like* a dwelling, and like nothing else. We should have one *chief* entrance front, and but one. If, by reason of more convenient every day approach or access, or a favorite landscape view, a side, or even an opposite front be desirable, such front should be of less pre-

tension than the main one, and by its subdued expression lead the eye naturally on to the more retired and continually occupied apartments, gradually descending in architectural effort and expense as it approaches the more humble, yet all important appendages which every well appointed dwelling requires. In short, a house, outside, ought to look as though it had a nursery and a kitchen, a back door and a wood-house, as well as a hall, a parlor, and a library; and the aiming at anything different from such effect, destroys the idea of a really comfortable mansion altogether, and is an absolute perversion of good taste in its construction.

A well spread, amply shadowed, homelike country house, is a grateful object, both to look at, and live in. And its deep porch or veranda without, and its ample hall within, leading on to quite as ample apartments, with arm chairs, and easy chairs, and lounges, where one can throw himself at full length, and at perfect ease, and kick his cares and vexations out of doors, without fear of soiling his carpets, or chafing the varnish off the mahogany or the rosewoods, is still better; and any sort of finish or furniture that forbids the entire recreation and enjoyment of one's self, within or about it, is so much *surplussage*, as the lawyers would say, and should be "struck out as irrelevant."

In your leader of the September Horticulturist, you gave most conclusive reasons why country houses and country furniture, should be unlike city houses and their furniture; and as one generally and strongly alleged reason for country life, is the quietude and leisure it confers, why not at once make the most of its advantages, and indulge in all the *abandonment* which it offers? A *true* country house should also have *some* appearance of rusticity—not

^{*} We think we can give our correspondent some light on this subject. Mr. A. for example, calls upon an architect and wishes a very complete cottage, with kitchen and all conveniences on the first floor. The general features of the plan are discussed and sketches are prepared. It is then found that two parlors and a library must be had on the first floor, and a considerable effect must be produced. Still the house must cost but a very moderate sum, which it must on no account exceed. Here is a dilemma, to which there are clearly but two horns—either the kitchen, &c. must be put in the basement, (where it will be remembered the cost is not more than half of the same accommodation in a separate wing on the first floor,) or a library or drawing room must be given up. The proprietor decides that he cannot surrender his finest apartment, and so the kitchen goes below stairs. It is the impossibility of obtaining with a number of handsome apartments and the utmost convenience of kitchen arrangements, for a small sum, which puts the kitchen of so many cottages in the cellar, and not the want of knowledge in the architect. Our correspondent is quite right as to the advantage of having the kitchen arrangements complete on the first floor. Ed.

vulgarity—but a keeping with all which surround it. Not castellated, nor magnificent; neither ostentatious nor pretending, but plain, dignified, quiet, and unobtrusive; yet of ample dimensions, and exceeding convenience. Then, in park or lawn, on hill or plain, flanked with mossy foliage, and well kept grounds, it becomes a perfect picture in a finished landscape. [Most excellent and sensible. ED.]

The ability to plan a proper country house is a quality of rare endowments, and can be acquired only after much thought, and a very considerable experience; and yet there is hardly a haberdasher, or gingerbread baker of the city, who has made his ten or twenty thousand dollars by a lucky run in trade, but what thinks he is abundantly competent to plan the “nicest kind” of a villa, on a smart scale; while if he be a successful mountebank, a prodigy exhibitor, or a play-actor, nothing short of a Chinese pagoda, a Tudor castle, or a Turkish palace can slake his appetite for display, and when completed, remain his own perhaps for hardly a longer term than he has spent in its anticipations and building. Very well, let those gentlemen have their way. The money they cost is no doubt their own,—for the time being—and living in a free country, they have a right to spend it; and so long as the example they thus set, is not pernicious, which, by the way, it is very apt to be, it is nobody’s business. But in this villa building age, it *is* of some amount, that those who intend retiring into sensible and practical country life, build in such a manner as not to make their residences a perpetual source of regret and annoyance to themselves thereafter.

But enough of this for one chapter. I shall probably soon meet with a text for another chapter.

Your Leader.—All right and practical. You’ve got hold of the real handle in Guano culture. Let the cultivator use it thus, and he will have little to complain of, but everything to commend in its application.

Transplanting on the unbroken sod, &c.—“Why under the sun” don’t prairie folk both understand, and do like Mr. HAMMOND, of Shandy Hall? I like the name, too,—Shandy Hall! It reminds me of dear old Tristram, and Uncle Toby—the luscious widow Wadham—oh, that eye of hers, and that fair cheek, and delicate arm! How could the kind old fellow resist them? But I am straying. I have often thought, when riding over our magnificent western prairies, with their finely wooded islands in the distance, and the beautiful swelling eminences, so temptingly offered to the settler, how rich and luxurious they might be rendered by the display of a little taste in their cultivation and improvement, as contrasted with the pig-stye appearance they so often present in the dwellings and farms of those who occupy them. Here, now, is a plain, practical account of what is done by a man of judgment and skill, with but a moderate outlay, and in a brief period of time. Would that this example could be studied and imitated by every prairie dweller; what a beautiful country would those prairies soon become! Day after day have I ridden over them, delighted with their wild beauty, and sad only when I approached the wretched enclosures and the mean houses which occupy them, destitute of even the most trifling shrub or tree to shadow their nakedness. But even the magnificent oaks, elms, or walnuts which perchance had grown through centuries of luxuriance on the ridge where the settler had squatted himself, remorselessly girdled because it shaded a portion of his corn

patch! and standing a scathed and bleaching trunk, with outstretched arms, invoking a malediction on the brutality which thus worked their destruction.

It is refreshing amidst such barbarity to find one who, like Mr. HAMMOND, has the good taste not only to preserve what is already grown, but thus vigorously to plant anew, and give grace and beauty to a region so much requiring it.

Invisible Wire Fences.—Yes, and visible ones too, I trust, will soon begin to appear in this rail-fence and stone-wall distracted country of ours. Why it is that in the grounds of our wealthy country residents, they have not long ago been adopted, is passing strange. In all the long catalogue of farm, park, lawn and garden enclosures, there is nothing equal to it. But before I begin on this subject, a word or two about fences in general. We have at least three times the fencing in this country that is necessary; and pretty much all owing to our beautiful system of "universal suffrage"—not of the people, Mr. EDITOR, but of the quadrupeds, pigs, cattle, sheep, and horses; to say nothing of those charming every-day nuisances called geese, which "nobody" owns when in mischief, but which every body who prefers to use the land of other people instead of his own, turns into the highway. And we "patriotic and independent Americans," haven't independence and self-interest enough to compel those who keep to take care of them. This evil, however, will in time correct itself. We cannot much longer bear the expense of this superfluous fencing. In some sections of our country it is already heavily felt, and better substitutes than rail, board or stone fences are sought. That wire is to become this substitute I have little doubt. *In hedges I have no sort of confidence*, not that they may not be cultivated, although our

climate is generally too dry for them, but with the characteristic impatience of Americans to wait for their growth, and the continual changes that are taking place in the ownership and division of real estate, half the hedges, should they be planted, will be rooted up outright, or ruined for want of attention before grown into use; and notwithstanding all the discussions in your paper and others on the subject, I have little confidence in their practical adoption in the United States. But in wire fences and their fitness for all purposes of land division and enclosures, I have entire confidence. Their economy and efficiency are practically demonstrated by Mr. SARGENT, in a way that every one can understand, and he is entitled to the thanks of your readers, as he has *mine* in particular. It is a fertile subject to discuss, and as he is so lately returned from abroad where they are much used, I trust he will pursue it to our further edification.

The substitution of wire fences for those now in use, will give to every farm, park, or lawn where they are introduced, a higher value. The improvement will be incalculable. Instead of rickety, zig-zag rail and board fences, and dilapidated stone walls with their interminable attendants of brush, briars and vermin, they will afford clean cultivation, and save a great amount of labor and waste now suffered by every one who has them to support.

The Madison Plum.—Quite right, Doctor. No one can better discover a good plum than yourself, or dress out a finer story about it when discovered. I trust this plum is an acquisition among our late varieties, and when I next go up to Albany in the plum season, I shall take it an especial favor to be gratified with a sight of it. I have great confidence in your judgment on such matters.

Random Notes, by Sylvanus.—Valuable thoughts, and most timely in appearance. There can be no doubt of the benefit of mulching *young* trees in particular, and old ones it certainly cannot hurt. The propositions on the pear blight, the bursting of cherry tree bark, and grape mildew, are worthy of consideration. I should like to see the subjects thoroughly discussed in your paper.

The Diana Grape.—An invaluable acquisition to our northern fruits; more especially north of the Highlands. The Catawba, hitherto our highest flavoured American grape, rarely ripens above that latitude, and the Isabella is uncertain. A grape, therefore, that is *sure* for such localities, is a desideratum in our pomology. Let this fruit be disseminated by all possible means. It will be a positive benefaction to the country.

The Congress of Fruit Growers.—Well, gentlemen, you have got together at last; and on very agreeable and satisfactory terms, as I see by the account of your proceedings. Now, you have strength—unequivocal and positive—and your name, too, is a good one. Yours is a great subject—one in which there is a deal to be done, and an annual volume, like that of the N. Y. State Agricultural Society, should be the *literary* fruit of its proceedings. You have the broadest and the finest field in the world for operation; and if, with all the intelligence and research now brought to bear on the subject, you do not expect something which the whole world has not effected before—I mean in diffusing intelligence in fruit excellence, and in fruit culture—I shall think you wanting in both tact and perseverance.

Your list of fruits recommended for *general* cultivation is both large and good. The only fear is that it will increase too

rapidly through the partiality of those who have their especial favorites, and the knife will have to be unsparingly applied to prevent them running too rampant. Right glad am I to see so numerous a list of rejected varieties. But its not half enough yet. It may be doubled, and trebled, and still the work is not perfect. But you have time enough for action, and no doubt you will improve it.

The move to Cincinnati for next year is a good one. Nothing can more naturalize you than thus holding your sittings in different and widely distant states. But I must postpone further remark till I see the official account of your proceedings, which I observe is soon to be published, and which I hope your efficient secretaries will be kind enough to send me.

Remarks on Diseases, &c., of Fruit Trees.—A very philosophical paper, and worthy the attention of every pomologist. Will not Mr. EHLERS continue the subject? He can do the public no better service in that line than to extend his "remarks."

New Seedling Fruits.—I am happy to see that both Dr. WENDELL and yourself so well agree on this subject. It will require some moral courage to keep this thing straight, and I wish that the Pomological Congress had appointed some standing committee to whom, in their several seasons, these new seedlings, as they are brought out, could be sent for examination, so that a fair report could be made concerning them. Some such plan must be adopted, or we shall soon have confusion more confounded, as before.

Destruction of the Curculio.—Three papers, and part of another, among your "Domestic Notices" on this subject, the first by Mr. SAUNDERS, full of doubts and suggestions; the next by our Syracuse friend, J. C. H., being positive, but not so

conclusive as positive; and the last from our veteran Cincinnati pomologist, Mr. LONGWORTH, flatly recording his *experience* against the *opinions* of J. C. H. And now, how doctors disagree. I really wish that Mr. ALLEN, whose paper on Mr. SPALDING's treatment of his plums, appears to have waked up this discussion, would give you further information on the subject, or get Mr. SPALDING to do it himself. Mr. LONGWORTH's experience agrees exactly with Mr. SPALDING's, thus far, and Mr. L.'s plum trees of twenty-two years of constant bearing, is certainly a reliable *fact* not easily controverted.

If paring *will* stop the ravages of the curculio, three dollars expense for that purpose is a cheap remedy, as it will last the entire life of the tree, and the whole expense be paid two or three times over every year in the fruit.

Now, my good J. C. H., as you are so positive as to what will *not* prevent the curculio, will you be kind enough to tell us what *will* do it, or can you give us any light on the subject whatever. I will give one hundred dollars for an *effectual*, a *permanent* and *practicable* preventive for my own trees, and I should clear the expense in one season, and save double the sum besides. This ascertained, the plum is as certain a crop in the northern states as any fruit whatever; but not ascertained, it is a chance matter altogether with nine-tenths of the entire country.

English Parks.—Odds, Bodikins! But the "Gardener to Professor SILLMAN" is in a stew! "Haven't I been there, and haven't I seen?" said the illustrious BEN PUMP to "Squire DICKERS." And why should not Mr. LEUCHARS know all about it also? for he not only has been, but *was* born in England. But softly. If the gentleman will just take up the "Mark Lane Express," the leading agricultural paper in England, and read its almost weekly articles and discussions upon "Game preservers," game laws, poachers, Botany Bay, together with agricultural distress, laborers' allotments, "parks of the nobility," poor-rates, and high-rents, and all the other grievances which power and entail heap on the powerless and unentailed, and will then tell us by any established fact, the comparative annual revenue per acre of any one nobleman's park, in proof of his assertion of their superior productiveness over cultivated land, he shall have ample credit for it. Mean time wait, my good friend; old England, I fancy, will not be agonized at my remarks.

JEFFREYS.

Correction.—In my notice printed in September Horticulturist, in the article "*Horticultural suggestions, &c.*", in twelfth line from the top, for "soils," read evils; and in *Descriptive notes of new Strawberries*, first line on top, for "distinguished," read disinterested. J.

December, 1849.

THE NORTHERN SWEET APPLE.

BY JONATHAN BATTEY, KEESEVILLE, N. Y.

AMONG the new native apples presented to the notice of the pomological meetings in New-York, for two years past, there are few that have been rated so highly as a fine golden yellow sweet apple, from the valley of Lake Champlain, presented by Mr. BATTEY, of Keeseville, N. Y. Mr. B. has also, at different times, furnished us with specimens of this variety, which, as a *sweet* apple, is both very handsome and very good. As the committee on seedling fruits, at the last Pom. Congress, recommended this variety as worthy of cultivation; and as we conceive it will prove especially valuable in northern latitudes, we publish the accompanying outline and description, which we made from the fruit, and also some remarks on the history of the variety, by Mr. BATTEY.

It should also be remarked, here, that this variety has been hitherto known in northern New-York, and the adjoining portions of Vermont, as the Golden Sweet, and the Northern Golden Sweet. It was recommended, however, by the seedling fruit committee of the late Congress, that, in accordance with the rules of pomology, the fruit be hereafter known as the *Northern Sweet*; both for the sake of brevity, and in order that it might not in any way be confounded with the Golden Sweet of New-England,—a well known and very distinct variety.

NORTHERN SWEET.

Synonym—Northern Golden Sweet.

A handsome and highly saccharine apple, cultivated in northern New-York and Vermont. "Tree vigorous, hardy and productive, and bears while very young."

Fruit rather large; form roundish, and in some specimens distinctly furrowed, or ribbed, both at the eye and stalk. Skin smooth, and even slightly oily to the touch; at maturity, deep golden yellow, and, in fine specimens, with a blush on the sunny side. Stalk an inch long, moderately stout, generally enlarged or swollen at the base,

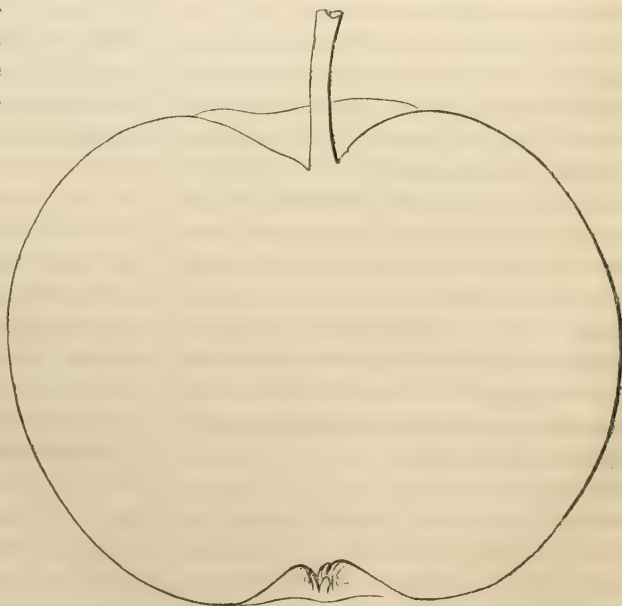


Fig. 95.—*Northern Sweet.*

and inserted in a shallow (filled-up) cavity. Calyx woody, closed, set in a regular plaited basin of moderate depth. Flesh

white, fine grained, juicy. Flavor very rich and sweet.

Mr. BATTEY gives us the following account of this apple:—This fine variety, though it has been cultivated for some 50 years in the vicinity of the place where it originated, appears to have been very little disseminated. The only bearing trees known to the writer, are to be found in his immediate neighborhood, and in some parts of Chittenden and Addison counties, in the state of Vermont. Why a fruit of such merit should so long have remained in comparative obscurity, is to be accounted for only from the fact, that for many years the true Golden or Orange Sweet, of the catalogues, was imagined by those acquainted with this fruit, to be identical with it.

The Northern Golden Sweet is unquestionably one of the best autumn *sweet* apples known. Having been perfectly familiar with it for the last 20 years, I have no hesitation in saying that I consider it decidedly *best*, among the best of its class and season. Some other sorts may possess certain peculiar advantages which this class does not,—as of early maturity, or late keeping; but in point of quality—of intrinsic excellence—it is, in my estimation, unrivalled by any other sweet apple of any season,* with which I have had the good fortune to become acquainted. The deep golden colour of its skin, and its brilliant red cheek, give it a charm for the eye of the amateur which is seldom surpassed. As evidence of its good qualities, it may be stated that the fruit, though coming at a time when several other good sorts are in eating, sells readily here at one dollar a bushel, when the ordinary price of other good varieties is but 50 cents.

In the nursery, the tree grows with about

medium vigor; but the branches are rather weak, and much inclined to droop. Older subjects are no less remarkable for the pendant habit of the terminal shoots, which are closely filled with spurs or bearing wood. The tree comes into bearing very young, and is one of the most regular and abundant bearers that I know. Its season of maturity is from the middle of the 9th month to the 1st of the 11th month.

The history of this variety is briefly this. Some 50 or 60 years ago, NATHAN LOCKWOOD, of Westchester county, N. Y., on his removal to St. George, Chittenden county, Vt., took with him, as usual in such cases, seeds, from which he raised trees and planted an orchard. In this orchard stood the tree, from which all others of this variety, so far as my knowledge extends, have been derived. The place is now owned by NATHAN LOCKWOOD, jr., son of the above, who has been deceased many years. The original tree having been destroyed, and no sucker having sprung from its roots, the only remaining source of information relating to its origin (if any there be,) would seem to consist in some record left by the elder Lockwood, or in family tradition, or in the memory of some of the older inhabitants of the neighborhood, who may have had a knowledge of the circumstances. With the aid of N. Lockwood, jr., I have for a year past been seeking after such information; but all I can learn, is the traditional account that “the old man used to say the kind came from his native place.” Whether the “kind came” in a *seed* or a *scion*, no one can tell. For my own part, I have no doubt that the original Lockwood tree was a *seedling*; since, had such a variety existed some fifty or sixty years ago in Westchester county, it must have come to the knowledge of nurserymen in the southern part of the state, and

* Mr. B. must allow us to except the *Ladies' Sweeting*, which, when in perfection, is to our taste the finest of all sweet apples for the dessert. *Ed.*

through them, have gone into general cultivation.

The original name of this variety here was *Golden Sweet*. Afterwards, to designate it from the correct sort of that name, known in New-England, it was called *Northern Golden Sweet*. It seems preferable now, that the suggestion of the special fruit committee of the late Pomological Congress be adopted, by omitting the term "Golden," and calling it merely *Northern*

Sweet. The proposed change may, at first, occasion some little embarrassment to cultivators in the valley of Lake Champlain, where it is now considerably disseminated; yet I think this will be more than overbalanced by the greater convenience resulting to fruit-growers generally, from its having a shorter and correct *standard* name.

Respectfully thy friend,

JONATHAN BATTEY.

Keeseville, N. Y., 12th mo. 20th, 1849.

PRACTICAL HINTS ON PRUNING GRAPE-VINES.

BY JAMES STEWART, WASHINGTON, D. C.

As the season for pruning grape-vines, with the majority of horticulturists, is rapidly approaching,—the middle of January being the time most commonly chosen,—I beg to offer a few remarks on this important operation.

The spur system, and the long-cane or renewal system, have both their admirers, and are most strenuously advocated by each of them, as being the *ne plus ultra* method, to obtain large and heavy crops of fruit. However, I beg to differ with the advocates of each of the above methods, although excellent crops can be obtained by both methods. The long-cane system, it is well known, shows the largest bunches; but, at the same time, the eyes do not develop themselves regularly, since frequently one-half of them remain inert, particularly towards the bottom of the vine. Another consideration in this system is this; however splendid the bunches may be that are produced, you never see them develop and mature berries to the same size as in bunches on the spur system of pruning. The strong rod, that has been regularly

spurred-in to one eye for a series of years, clearly demonstrates its superiority over the finest cane. Therefore, I do not think favorable of the cane system. First, because the berries are not swelled so well as on the spur system. Secondly, that many of the eyes or buds are not developed; nor can they be, however much the vine may be twisted or turned about; nor will all the depression that you can give the terminal eyes have the desired effect. Thirdly, that it is not permanent, but requires renewal every year.

The spur system is now so well understood by grape-growers, that a minute description of it is unnecessary. With modifications, it is my favorite mode; but as the usual practice in pruning vines, on this system, is to cut them back to one eye, and that eye is never so prominent at the base as it is midway on the shoot, it is an utter impossibility for the bunch developed from such an eye to be so large as the bunch obtained on the long-cane system. My objection to this method is this; that in cutting back to one eye, to keep the spurs

"close at home," as it is termed, you sacrifice much better developed eyes than the one you retain; and as a small eye *cannot develop a large bunch*, the natural consequence is small bunches, but well swelled berries. Vine cultivators will have noticed the above facts, which I point out. Now as both the cane and the spur methods are deficient, I shall endeavor to show that a combination of both systems may be made of the utmost importance to the cultivator, insuring him bunches and berries of the largest size that are to be obtained by good cultivation.

To effect this, I should recommend, that in pruning vines on the spur system, *not to cut back to one eye*, but choose the most prominent eye on the shoot, where the wood is well ripened. Cut back to this, and with a sharp knife *blind all the other eyes* by carefully cutting them out, with the exception of the eye at the base, or, in other words, the eye that would be left in spurring back in the common manner. This must be carefully preserved, as the finest eye, as this is intended to furnish a shoot for the following year, but by no means to be allowed to produce any fruit; on the contrary, when five or six joints long, it should be stopped, and kept well stopped all the season, *to swell the buds up as prominently as you can, without causing them to break*; this must be carefully guarded against. The consequence of exciting your buds, on the shoot that you should cut back to, would be the loss of one year's crop.

If any cultivator will give this method of pruning an impartial trial the coming season, he will find that his bunches will be improved in size, as well as the berry. In pruning the season succeeding this prepara-

tory step, the shoot that has borne the crop should be cut clean out; and the shoot that has been brought from the base to produce the following season, should have all its eyes cut clean out, with the exception of the most *prominent eye*, that has been selected to bear the fruit, and the one at the base, that is to produce a bearing shoot for the following crop.

I think it decidedly a bad plan to delay pruning so late as the generality of cultivators do. My plan is to prune, as soon as I perceive the *foliage turning yellow*, as then there is *no danger* of exciting the eyes, as the sap in the vine then has a downward tendency; whatever is left goes directly to swell up the other eyes, instead of being uselessly expended in nourishing *laterals* and useless wood, which, to a certainty, would have to be cut out. However, in pruning with the leaves on, I take especial care not to remove them—merely blinding the eye. In short, what is to be aimed at is this: assist your buds to swell up as prominently as you can for the coming season, as the finer they are the finer will your produce be; and the right time to prune, is when you observe the foliage turning yellow; then there is no danger. This system can be followed out of doors quite as advantageously as under glass; and when adopted, it greatly excels the common mode of pruning, as the produce is nearly as fine again; and should the vines possess a good border to grow in, and with the aid of stimulating liquid manures, they will approximate as near to perfection as may be. I have a few hints to suggest, on making vine borders, which I will hand you at an early day. Yours truly, JAMES STEWART.

Washington, D. C., December, 1849.

A FEW WORDS ON RUSTIC ARBOURS.

BY AN AMATEUR, NEW YORK.

THERE, are no doubt, many persons among your readers, who can indulge in costly vases and expensive ornamental structures as decorations for their gardens, but I am sure there is a much greater number who cannot, and who yet wish to give an air of beauty to their gardens or grounds. To all such, rustic buildings, rustic seats, rustic chairs and vases, are invaluable resorts, and I am not quite certain that they do not more universally please, than the more highly artificial form made by the aid of the carpenter.

One of the first and simplest rustic ornaments for the pleasure ground or garden, is the rustic seat, which is seldom out of place any where, except it be close by, or directly within the house itself, and if the house also is a rustic cottage, it is appropriate even there. After this come rustic boxes and baskets for growing flowers, and rustic garden buildings of various kinds.

The most useful and most agreeable of all these, is the simple *rustic arbor*, with projecting roof, covered with thatch or bark. I send you herewith (see FRONTIS-PIECE) sketches of two of these, copied from a French volume on garden decorations. I have had one of these executed in a secluded spot, and the effect is highly satisfactory, and a covered arbor like this is agreeable at all seasons of the year, when a walk in the garden is sought after.

Rustic work, made of the branches of trees indiscriminately, and exposed to the full action of the weather, perishes very speedily. But if it is protected from the rains by being under the shelter of an

overhanging roof, as for example, covered like these arbors, it will last from 10 to 15 years without repairs. But by far the best material, where it can be obtained, is the wood of red cedar, as it will endure for 20 years or more. The stems of young cedars are usually straight, and may be split in halves so as to form excellent pieces for forming the inlaying or panel-work of the insides of rustic arbors, as shown in the figures; and the larger limbs will form good pilars and lattice work for the open portions of the exterior. The frame of such arbors as these, is made by setting posts, cedar or other, with the bark on, at the corners, and then nailing rough boards between the posts, in those compartments that are to be worked close. Over these boards the halved or split rods, (those from one to two inches in diameter, are preferable,) are nailed on so as to form any pleasing patterns which the taste or fancy may dictate.

A very little practice will enable any common workman who can use a saw and hammer to do the mechanical part of the work, and even ladies of taste may find much pleasure in planning and directing such operations. I would also remark that this is the best season for making all kinds of rustic work—not only because it is the right time for cutting the wood, in order to have it retain the bark well, but also because the labor of garden workmen is much cheaper now than at any other season of the year.

I have sometimes seen rustic work introduced in excess, and then, like many other things, it becomes ridiculous. In order to



RUSTIC ARBOURS.

guard unthinking novices against running into this error with garden decorations, I will conclude my remarks by quoting some observations of a foreign writer, Mr. GLEN-
NIE, on this subject.

"The labors of some gardeners, and the fancies of some employers, seem to be devoted to the impossible object of cramming all the best features of nature into their limited space, and they manage to make every one ridiculous by its diminutive proportions, and the whole surpassingly absurd by presenting all the half-developed follies to the eye at once. Fish ponds that half a dozen ducks would crowd to inconvenience; summer houses that look as if the children had left one of their doll-houses about the place; rock-work, as if the gardener had forgotten to remove the stones he had raked off the beds; and, as to rustic work, the best use they can make of that, is to construct bas-

kets, to be filled with stove exotics in the conservatory, and with geraniums in the hall, as if to present as great a contrast as possible in their rustic contrivances with the enterprise and luxuries of the present day. The drawing-room coal-scuttle, filled with gold fish, would be quite as much in place, and, to thinking people, not a whit more ridiculous. When people, therefore, object to rustic work, the first question is, where did they see it? because, if a man has seen it out of place, he may be excused for condemning it, although if seen in the proper place he may approve of it, as much as he formerly objected to it. The misapplication of anything ought not to be a reason for condemning it, and there is nothing more beautiful than rustic scenery, and this can only be made complete with rustic work."

Yours, AN AMATEUR.

New York, Dec., 1849.

VINEYARDS AND THE ART OF MAKING WINE.

BY J. NOYES, HOLLYWOOD, MISS.

A great many persons are experimenting at the present time, with vineyard culture, and there is a good deal of inquiry regarding the best mode of making wine. The following article, which we copy from the New Orleans Crescent, contains the simplest and best practical directions for wine making, that we have yet seen, and we say this after having examined the best foreign treatises on this subject, and experimented a little, at various times, with fermentation, &c., ourselves.

Our readers will remember, that a vineyard for wine, must be manured and cultivated on a different principle from one where large crops of market fruit are desired—as it is the vinous quality of the

juice that is the all-important point in the former case. Large size and good flavor may be attained by high manuring with animal manure, while the latter would injure the quality of fine wine. ED.

In DeBow's Commercial Review for September last, I published a letter on the vine culture at the South, and since that time I have received weekly, and almost daily, inquiries for further information on culture and soil, and my method of making wine from the Roanoke. To answer all such inquiries individually, upon such a lengthy subject, would be almost impossible; therefore I take the liberty of using your columns for that purpose; and, as much of this letter is a continuation on the same subject as that in the Review, I should feel much obliged if you would

copy that letter into your Weekly, and follow it up with this article; for, in all probability, a vast number of persons seeing this, will consider it incomplete, not having seen the other. The wine-growing business of the South, before long, will be of such vast importance, that to keep from the public any information likely to excite an interest in its cause, will deserve the highest censure. I feel bound, therefore, to share what little knowledge I have among those who wish it; for, giving does not impoverish, nor withholding make rich. I will now proceed to finish the article on culture—that being the business of the vigneron—before I commence wine-making, or the business of the vintner. As the soil of my vineyards is rather of a tenacious kind, and of course much injured by working in wet weather, I defer the last spring working until the buds begin to break or open, (which happens here early in April with the Roanoke, but much sooner with the other kinds,) for if the soil is worked too early, a two-fold injury most invariably follows, first it creates a stimulant to the plants, and excites the circulation of the sap, and pushes the buds too forward into life, thereby exposing them to the late spring frosts; and, in the second place, if worked early, the hard rains in March, pack the earth very close, thereby greatly retarding the growth of the vines; whereas if the work be left until after, the soil remains loose and friable, so that the air and light—so essential to the existence of vegetation—are admitted more readily to the roots, and prevent that sluggish growth that otherwise must follow, on renewing the soil. When the soil of the vineyard is found to be on the decline—which is easily discovered by the fruit degenerating in size and tenderness, and the growth of the wood being much shorter from joint to joint, and assuming an ash grey, instead of an olive brown color—where such signs make their appearance, the vigneron may with safety apply some new soil, taking care, however, to apply it with caution; for, the vine, in the vegetable kingdom, is far more intemperate than man, in the animal, and it never fails to collect all the most gross and the very filthiest materials within its grasp, to gorge

itself with; and when it so happens that such soil is placed within reach, a most prolific growth of wood and foliage follows, and sometimes a good show of fruit; but before the latter matures, it rots and falls off. Seeing, then, that the vine is so intemperate in its desires, and that it really is susceptible to every change made in the soil, however trivial, much caution at all times should be used when renewing takes place. Rich manure should never be applied under any circumstances, no matter however poor the land may be. My plan is always to have by me a good supply of compost, of well pulverized and decomposed materials, and from one to two wheelbarrows full are scattered round each vine every year in the fall, and well raked into the surface soil, (my vines being twenty feet apart.) This plan keeps up a uniformity in the quality of the soil, and is much better than to apply a large quantity at once every two or three years, which acts so suddenly on the vines; for, be it recollected, although the vine is one of the grossest feeders on the soil, yet it is absolutely the most abstemious when kept in proper bounds, thriving in land so poor that it would scarcely sustain life in other plants.

My compost is made in the following manner. Every fall, after the field and garden crops are brought in, I have collected in a large heap, three feet high and six wide, all kinds of trash, such as cornstalks, potato vines, cabbage leaves and stumps, chips from the wood-yard, sweepings from the house and poultry yard, spent ashes and rotten log; and if not enough, fallen leaves from the woods. When the pile is made up, it lies all the fall, winter, and spring. In the meanwhile a cask is placed at some convenient distance near the house, which receives from day to day all the chamber lye, dish-water, soap-suds, and meat bones. Once or twice a week, this is carried and thrown over the compost heap. By the following spring, the heap shrinks down to about a foot high. Then we throw on it a load of sand, (the coarser the better,) for every three or four loads in the heap; the pile is then turned over and mixed well together and left so until next fall, but not allowed to receive any more

slops from the house—that being carried to a new heap. During the second year the compost heap is turned over once or twice at least, and in the fall is fit for the vineyard, for renewing the soil as aforesaid. The aspect or situation of the vineyard, I think somewhat important, and that of an eastern, or as near it as possible, I prefer, as from it we receive the rays of the sun, so grateful to vegetation in its early dawn. A southern aspect, so much desired in colder climates, does not so well here, the heat of which is so intense from twelve till four, that the skin of the fruit is much hardened thereby, and the air vessels in the leaves are contracted, and their breathing functions are impaired for the time, and the leaves in consequence are made to sicken and to droop, until the decline of the sun's powers brings relief in the dew of the night.

After having said so much, and explained so little on the work of the vigneron, I will now proceed on the work of the vintner. *Wine-making* I consider almost a mechanical art. To arrive at the arcana of which, however, it is necessary to pursue a regular method in the process, and by doing so any person of ordinary ability can acquire it. As my desire is only to inform novices in the art, or young vintners who will be content with simple rudiments unconnected with technical terms, I shall set down my plan in the plainest possible manner; for it is a well known fact, that thousands of writers of the present day, undertake to enlighten the uninformed, and their manner in describing things is so hard to comprehend, that no one less informed than themselves can understand one word of the subject on which they undertake to write. I speak from experience, as I have by me a number of works on the subject I am now writing of, and scarcely one of them I consider worth reading, and from the cause above stated. This fault arises, no doubt, from the fact that few practical men find time to write, while fewer still who write, give themselves the trouble to practice what they write about; thus illustrating the motto, that "an ounce of practice is better than a pound of theory." So much for the introduction, now for the practice.

The plan I am about to describe is on a small scale, but if the vintage is large, the utensils can be altered to suit. The vintage being ripe, you should have already been provided with a few clean tubs. Fresh emptied whiskey barrels cut in two, do very well. Your fruit being gathered, reject all rotten and under ripe; throw into one tub as much as will cover the bottom one inch deep; take a new maul, (beech if possible, as this wood is an advantage to new wine,) such as is used for splitting wood; let it be cut square at the end; use this to crush the fruit, in a similar way persons use a dasher in churning butter, and with no more force than necessary to burst the skins. The fruit, when thus prepared, is called *marc*, and is fit for pressing in this state—which must be done in the following way: take press-cloth—the form of which I will hereafter describe—double it and place it in a large wooden bowl; then put on the cloth as much marc as it will contain; when folded up, tie it round with a strong cord, and place it on the platform of the press, and press it with as much force as you please, the form and plan of which is not material, so that the largest quantity of juice is obtained; while one cloth is being used at the press, a second should be filled so as to save time, as it is very important that all the juice should be pressed out as soon as possible, after the first operation has commenced.

The juice of all the vintage having been expressed, carry it to the working tub in the cellar, and it is no longer to be called juice, but receive the name of *must*. This tub containing the must should be covered over with a clean linen cloth, and left undisturbed for twenty-four or thirty-six hours. If the night be cold, throw over it a blanket, but be sure to remove it in the morning, in order to keep an even temperature, which should be if possible, not below 65° or above 75° Fahrenheit—(mine at the vintage is 72°.) You will observe by-the-bye, that the juice will require no other straining than it received at the press by passing through the press-cloth; and by this plan both waste and much time are saved. The must having been allowed to settle, as directed above, should now be drawn off into prepared casks, to work for ten or twelve days, ac-

cording to the temperature of the weather at the time, and kept filled up morning, noon, and night for four or five days, after which twice a day will do. There must at the time of turning be sufficient spare must in reserve, say six gallons to every barrel after all the casks are full, and this should be kept near the cask, to fill them up from time to time. The filling up must be done with an earthen or china pitcher having a lip, and at no time must any metallic article be suffered to drop into the must, as it is apt to injure the color of the wine, as well as to affect the taste. At the filling up always remove whatever scum may be at the bung-hole, and keep a small tub or dish under each cask, to receive the drippings, as the clear will do for filling up.

At the end of ten or twelve days the working will have ceased, which you will know by seeing the wine clear at the bung-hole, and the hissing noise stopped in the cask, and all floating beads disappear from the surface. If the wine (for recollect it is no longer must) show these indications, it has ceased working, and may be stopped in the following manner: Set the cask upright, and place over the bung-hole a clean piece of paper; lay the bung on top, and press both into the hole as hard as you can with your hand, without any other instrument. This is mainly to exclude the air—see to it once a day, for three or four days, that it be not disturbed. At the end of that time place your ear close to the bung, and if no hissing sound proceed from the cask, remove the bung, disturbing the wine as little as possible; fill the cask to within a fraction of the under edge of the hole, and drive the bung down tight; but should the wine at this last examination not have ceased working, the bung and paper should have been placed as before, and left three or four days longer.

The wine, thus being stopped down, will require no more attention until bottling time in the following March, and being about the time I think all wines should be bottled or transvased. If you conclude to keep it in cask a second year, it must be transvased, letting no more run from it than is bright and clear, the hullage, or thick, being turned into a smaller cask and fined for use. The cask you intend

to bottle, do in the following manner; remove the bung, or, my plan is to bore a hole through the bung with a large size gimlet, (as starting the bung disturbs the wine,) without disturbing the cask in the least possible. Let this be done, not twenty-four hours before bottling, which is the method most persons take, but about ten minutes, and see that every thing has been got ready before, the cask having been tapped at the time of turning with a tight bottling cock, and four inches from the bottom of the cask, proceed to bottle, taking care only to draw off about two-thirds. I have with me at this time a careful servant, as it is a business for two. I allow only about a dozen bottles to be filled before I commence to cork, giving only about ten minutes for the air to escape from the bottle, for if longer the bouquet is much injured, and wine without or deficient in this quality, is like a rose without fragrance. Your bottles should be filled to about one-third of the neck above the shoulder, and on no account suffer your corks to be soaked in any thing before being used, as they will shrink after from the wax, and perhaps cause your wine to spoil, whereas, if driven in dry they swell in the bottle, and the wax will adhere more perfectly. With this precaution I never loose a bottle of wine, as I generally attend to the old adage, that any thing worth doing at all is worth doing well. Reject all corks that are hard and porous. When all are corked, with a sharp knife trim off close down to the glass before waxing, after which pack in dry saw-dust, in binns or casks, in a cool cellar, with a uniform temperature, and in six months you may try it, but twelve will be better.

Having got through making and bottling, I will before I conclude, say a word about casks, tubs, wax, &c., &c. In regard to the casks, I think it always best to buy new, and have them made of the best materials, and as soon as brought home, filled up with cold water, and soaked thus twenty-four hours; then emptied and half-filled with boiling water, shaken about and turned over three or four times during an hour, and while hot, emptied and placed pole downwards forty-eight hours to dry; then sulphured in the following manner—

melt stone sulphur in an iron sauce-pan, have ready strips of muslin twelve inches long and half an inch wide, dip them in the sulphur while hot, (these are called matches,) double two or three of them over the end of a wire, set fire to them, and let them down to the bottom of the cask at the bung hole, keep them burning as long as they will; repeat this as long as a match will burn, and when the cask is full of vapor, bung it up tight, and it is fit for the reception of the wine, and will keep for months, so that before the vintage be ripe all the casks can be ready for use. The working tub should be large enough to contain all the must of the vintage, unless different colored wines are to be made, in that case separate tubs will be required. This tub should be placed in the cellar, on a stand or strong bench, high enough for the casks, at the turning, to be rolled under and filled at the spigot, placed one-fourth from the bottom of the tub, as performing the turning in any other way, will be troublesome as well as wasteful.

Wax should be made in the following way:—take one pound of resin and one pound of bees-wax, with an ounce of pulverised Spanish brown, and melt them in a saucepan over a charcoal fire, keeping them stirred, and while hot the bottles are to be dipped in so as to have about one-fourth of an inch of glass covered, as more is unnecessary. In bottling, every vintner should be provided with a bottling-stool, which may be seen at almost any portercellar, and without it the business cannot be well done. Across it you sit—the end forms a table with a rim to keep on your corks and driver; on it is fixed a thick soft piece of sole leather, on which to place your bottle for driving the cork; on the table also is fixed a cork-squeezer, for squeezing the cork two or three times before it enters the bottle, as this always should be done when corks are used dry, as they yield much better to the bottle, and go further down. Fly press cloths are made with strong coarse linen, such as is used by manufacturers in baling up dry goods. Each cloth is made the size of a bed sheet. Linen is by far the best material, as it gives out no linty fibers as cotton or woollen will, and too much care can-

not be taken to avoid all extraneous matter coming in contact with the must, as it is apt to excite and produce reactions, and cause dryness and sometimes sourness in the wine.

Transvasing—I do not approve of this operation oftener than it can be helped, as it is merely to produce flatness as well as brightness in the wine, and mine is always characterised by the latter and never by the former quality; and I hope it will not be considered presuming when I state that I never drank any wine in my life, foreign or domestic, that possessed two of the richest qualities in the same degree that my wines have. My plan is never to transvase from the time it is stopped down until the March following; for as often as wine comes in contact with the air, so often does a great portion of the bouquet and flavor of the fruit escape. Some may think keeping wine so long without transvasing, it would not come fine in time for bottling, but I have never yet had any to fail.

In speaking of the maul for crushing the fruit, I named beach-wood as the best, and such is the fact that in countries where wine is made in large quantities, and from various causes large quantities become thick and cloudy, and to resort to finings made from isinglass or whites of eggs, as we do, would be too expensive, they therefore take new beach-wood and chip it up fine, dry it well in the sun, and from one to two pounds is put into a hogshead of wine, rummaged well with a broomstick, stopped down and left to settle, and it acts the same way as a more expensive mode. In making wine on a large scale the better way is to crush the fruit between two wooden rollers, horizontally meeting each other, turned with a crank.

This article has been extended far more than it would have been, had it been in the hands of an able writer; but as most persons requesting it, wish for a plain detailed account, at the same time, while I have endeavored to meet their views, I have thrown it together in as short a space as I knew how; and all who benefit from its contents are heartily welcome, for in a similar way the writer has obtained the materials of which he has built his small temple of knowledge, which is yet so imperfect that if he lives a hundred years he will always find gaps to fill up. J. NOYES.

REVIEW.

MEMOIRS OF JOHN BARTRAM AND HUMPHREY MARSHALL, with Notices of their Botanical Contemporaries. By WM. DARLINGTON, M. D., L. L. D. With illustrations. Octavo, pp. 535.

[We are indebted to a Philadelphia correspondent for the following notice of this work.* ED.]

This book tells its own story admirably; as a picture of colonial life it is truly graphic, but as the biography of an honest, self-educated man of genius, it is beyond all praise. While we say this, we must remark that some further expurgations from the text would have made the work more valuable, and less open to the criticisms of those, (and we envy them not,) who cannot appreciate the beauty, the simplicity, the sterling good sense, but above all the natural character of JOHN BARTRAM. He was among the very first, if not the first, who turned their scrutinizing eyes to the wonderful flora of this continent, and who, by their zeal and industry, were the instruments of adding most materially to the beauties of the unrivalled parks and gardens of Europe.

MR. BARTRAM was of American birth, respectably connected, and inherited a moderate fortune in land, but having early imbibed a fondness for the study of natural history, set up the first commercial botanical garden in the province of Pennsylvania. It still exists in the possession of his granddaughter, Mrs. Carr, and her husband, on

the banks of the Schuylkill, near Philadelphia, rich in fine old specimens of trees and shrubs. Especially to be noticed in that fine old garden, is the enormous cypress, (*Cypressus disticha*), the largest tree known in that region of country. And here we would incidentally remark, without intending to depreciate the one or eulogise the other, the great advantage the planter of trees possesses over the lover of the greenhouse, in *perpetuating* the memory of his labors; the one places his trees in the ground for posterity to love and admire, and posterity, (barring some insane descendant's axe,) will be sure to pay its tribute at the shrine; while the too frequent fate of the greenhouse, when its owner leaves the scene he so much enjoyed, is destruction or decay. The Arboretum survives, in at least one fine specimen; it may be overrun with weeds, but a noble tree or shrub attests its owner's taste, and is his best monument; the greenhouse, without daily and nightly care, *as much attention as a young baby*, soon loses all its attraction, and is no more. We might safely compare the two operations thus: the greenhouse lover is like the actor, remembered by his contemporaries, *and by them only*, while the tree-planter is the author, who survives the representation of the painted scene, and in his works lives after them. Could we possess absolute power, we should at once say to some of our friends who only plant in tubs and pots, "go at once and plant a Cedar of Lebanon, a Deodara Cedar, all the magnolias, that you may do something by which you will be thanked by posterity." HUMPHREY MARSHALL, also commemorated in this volume, did this, and now that there

* DR. DARLINGTON has prepared this volume with a sketch of the "Progress of Botany in North America," which will interest botanical readers. We regret to see that the artist employed to sketch that picturesque old stone mansion—BARTRAM'S house—standing in the midst of the Bartram garden, still well preserved and finely covered with ivy, should have so utterly failed in the plate which is the frontispiece to this work. The house is a gem for the lover of the picturesque, and this cut is a fright for the lovers of—anything. Help it by all means in the next edition. ED.

is no other monument to him, and his garden is uncared for, an enormous *Magnolia acuminata* rears its head to the skies, and at first sight induces the question, "Who planted that?" No inscription is needed to tell of worthy deeds; his reputation survives, and we feel satisfied that MARSHALL, with his rural pursuits and botanical pleasures, must have been an honest, worthy, thinking man; and such he was—not as eminent as BARTRAM, but with his fondness for research, and love of natural history. Both passed an innocent and useful life, and while their pursuits were their own reward, have reaped the additional fame of a worthy commemoration by a valued and useful follower of their tastes, and eminent botanist.

By a curious coincidence, this large volume of Dr. DARLINGTON'S, on which he has expended no little labor, induced by the love of the topics discussed by BARTRAM and his celebrated correspondents at home and abroad, we find lying, as we write, in juxtaposition with the erudite works of Dr. ASA GRAY and of Dr. TORREY. Here are the records of the beginning of the study of botany and its full fruition. When BARTRAM and his correspondents commenced their researches into the mysteries of Nature, they were possessed of blind guides; order had not sprung into existence; JAMES LOGAN writes:

[LOGAN TO BARTRAM.]

"Friend J. Bartram:—Last night, in the twilight, I received the enclosed, and opened it by mistake. Last year Peter sent me some tables, which I never examined till since I last saw thee. They are six very large sheets, in which the author (Linnaeus) digests all the productions of Nature in classes. Two of them he bestows on the inanimate, as stones, minerals, earths; two more on vegetables, and the other two on animals. His method in the vegetables is altogether new, for he takes all his distinctions from the stamina and the styles, the first of which he calls husbands, the other wives. He ranges them, therefore, under those of 1 husbands, 2, 3, 4, 5, 6, 7, 8, 9, 10,

12, 20, and then of many husbands. He further distinguishes by the styles, and has many heads, under which he reduces all known plants.

The performance is very curious, and at this time worth thy notice. I would send it to thee, but being in Latin, it will want some explanation, which after I have given thee, thou wilt, I believe, be fully able to deal with it thyself, since thou generally knows the plants' names." p. 307.

LINNAEUS, thus characterised by a cotemporary! "His performance is very curious!" How little did the writer know of his future fame, unequalled by any previous or subsequent discoverer.

The correspondence, while it pictures the trials and exposures of the early adventurers among the mountains, and Indians, and savannahs, in pursuit of specimens for the enthusiasts abroad, shows plainly the amount of ignorance under which they all labored; indeed a person possessed of little love for nature would be almost pardoned for declaring that if a parcel of schoolboys were now to sit down and write as these letters are written, they would be laughed at. But knowledge has made vast strides since the year 1730; particularly is this the case in botany. "If we embrace," says HUMBOLDT in his *Aspects of Nature*, (so pleasantly translated by Mrs. SABINE, and just published in Philadelphia,) "in one general view the different species of phænogamous plants at present contained in herbariums, the number may now be estimated at considerably above 80,000."*

* "We must carefully distinguish between different questions: How many species of plants are described in printed works? how many have been discovered, *i. e.* contained in herbariums, though without being described? how many are probably existing on the globe? Murray's edition of the Linnaean system contains, including cryptogamia, only 10,042 species. Willdenow, in his edition of the *Species Plantarum*, between the years 1797 and 1807, had already described 17,457 phænogamous species, (from *Monandria* to *Polygamia dioecia*.) If we add 3000 cryptogamous species, we obtain the number which Willdenow mentions, viz. 20,457 species. More recent researches have shown how much this estimation of the number of species described and contained in herbariums falls short of the truth. Robert Brown counted 37,000 phænogamous plants. I afterwards attempted to give the geographical distribution (in different parts of the earth already explored) of 44,000 phænogamous and cryptogamous plants. DeCandolle found in comparing Persoon's *Enchiridium* with his *Universal System* in 12 several families, that the writings of botanists and European herbariums taken together might be assumed to contain 56,000 species of plants. If we consider how many species have

LINNÆUS was acquainted with comparatively but few; how limited were the means of knowledge with our "King's Botanist," BARTRAM; how few his resources for acquiring the little that so few knew! PETER COLLINSON and his other correspondents, write constantly to send tortoises, wasps' nests, and other things the very names of which they were unacquainted with; and yet they were performing their office, spending their money† to bring together the unknown things of America, where science could name and classify them. They too had a planting taste that has not spread in proportion to the increase of knowledge, for our best trees and shrubs; they write for more *Franklinias*, (now *Gordonia subscens*), more *Magnolias*, and especially were they anxious to possess our magnificent Water-lily, (*Nelumbium luteum*) one of the most superb plants of America, both for leaf and flower; and yet we venture to say not one in ten thousand of our countrymen have had *their* curiosity awakened to see the expanded treasure; though it grows in all its glory within two miles of the now old (in an American sense) Independence Hall. But a favored few know its locale or ever see its curious flower, or the fruit equally agreeable and somewhat similar in flavor to the Chinquapin. Why is this, unless, indeed, we make the excuse that it is diffi-

cult to cultivate, *or*, that little curiosity on these subjects exists among us?

But we must turn to the book and endeavor, by extracts, to exhibit the character and the simplicity of this correspondence.

In a late letter from BARTRAM, he thus beautifully describes the beauties of nature; it seems as if he had concentrated his whole soul in this one effort:

"What charming colours appear in the various tribes, in the regular succession of the vernal and autumnal flowers—these so nobly bold—those so delicately languid! What a glow is enkindled in some, what a gloss shines in others! With what a masterly skill is every one of the varying tints disposed! Here they seem to be thrown on with an easy dash of security and freedom; there they are adjusted by the nicest touches. The verdure of the empalement, or the shadings of the petals, impart new liveliness to the whole, whether they are blended or arranged. Some are intersected with elegant stripes, or studded with radiant spots; others affect to be genteely powdered, or neatly fringed; others are plain in their aspect, and please with their naked simplicity. Some are arrayed in purple; some charm with the virgin's white; others are dashed with crimson; while others are robed in scarlet. Some glitter like silver lace; others shine as if embroidered with gold. Some rise with curious cups, or pendulous bells; some are disposed in spreading umbels; others crowd in spiked clusters; some are dispersed on spreading branches of lofty trees, or dangling catkins; others sit contented on the humble shrub; some seated on high on the twining vine, and wafted to and fro; others garnish the prostrate creeping plant. All these have their particular excellencies; some for the beauty of their flowers; others their sweet scent; many the elegance of foliage, or the goodness of fruit; some the nourishment that their roots afford us; others please the fancy with their regular growth; some are admired for their odd appearance, and many that offend the taste, smell, and sight, too, are of virtue in physic." p. 398.

The following are fair specimens of the large correspondence of PETER COLLINSON, and exhibit the amount of knowledge then possessed by him. They show the progress of the introduction of our trees, &c., into Europe, with some natural touches of character.

[COLLINSON TO BARTRAM.]

"As Lord Petre desired to see thy letters, they are all there. He admires thy plain natural way

since that period been described by travellers, (my expedition alone furnished 3,600 of the 5,800 collected species of the equinoctial zone,) and if we remember that in all the botanical gardens taken together there are certainly above 25,000 phenogamous plants cultivated, we shall easily perceive how much DeCandolle's number falls short of the truth. Completely unacquainted as we are with the large portions of the interior of South America, of Africa, Madagascar, Borneo, and Central and Eastern Asia, the thought rises involuntarily in the mind, that we may not yet know the third or probably even the fifth part of the plants existing on the earth!"

Professor Lindley, in his "Vegetable Kingdom," published in 1848, estimates the number of the species then known at 92,930, including Algæ, Fungi, Lichens, Mosses, Ferns, and flowering plants.

† We must say, even taking into account the difference in the value of money, the prices paid were very small. The king allowed Bartram only fifty guineas a year to pay his traveling expenses and for specimens. Other payments will strike the reader of the book as ridiculously small.

of writing, and thy observations and descriptions of several plants. For want of them, I shall only take notice of thy proposal, in one of them, for an annual allowance to encourage and enable thee to prosecute further discoveries. Lord Petre is very willing to contribute very handsomely towards it. He will be ten guineas, and we are in hopes of raising ten more. This, we think, will enable thee to set apart a month, two, or three, to make an excursion on the banks of the Schuylkill, to trace it to its fountain. But as so great an undertaking may require two or three years, and as many journeys, to effect it, so we must leave that wholly to thee. But we do expect that after harvest and when the season is that all the seeds of trees and shrubs are ripe, thou wilt set out; and them that happen not to be ripe when thou goes, they may have attained to maturity when thou comes back. We shall send thee paper for specimens and writing, and a pocket compass,—expect thee 'll keep a regular journal of what occurs every day; and an exact observation of the course of the river, which, with a compass, thee may easily do." p. 72.

"Dear Friend—As thee has given me many instances of thy curious speculative disposition, it has put me on enlarging thy knowledge in natural enquiries, as the earth is filled with wonders, and every where is to be seen the marks and effects of Almighty power. Most things were made for the use and pleasure of mankind; others, to raise our admiration and astonishment; as, in particular, what are called fossils,—being stones, found all the world over, that have either the impressions, or else the regular form of shells, leaves, fishes, fungi, teeth, sea-eggs, and many other productions. That thee may better apprehend what I mean, I have sent thee some specimens, in a packet of paper for specimens of plants for Lord Petre, with some seeds, and a pocket compass. Captain Savage has promised to take care of the parcel. In the course of thy travels, or in digging the earth, or in thy quarries, possibly some sorts of figured stones may be found, mixed or compounded with earth, sand, or stone and chalk. What use the learned make of them, is, that they are evidences of the Deluge." p. 73.

"One thing I must desire of thee, and do insist that thee oblige me therein; that thou make up drugged clothes, to go to Virginia in, and not appear to disgrace thyself or me; for though I should not esteem thee the less, to come to me in what dress thou wilt, yet these Virginians are a very gentle, well-dressed people, and look perhaps more at a man's outside than his inside. For these and other reasons pray go very clean, neat, and handsomely dressed, to Virginia. Never mind thy clothes; I will send more another year." p. 81.

"By what I can observe of the fine Laurels, No. 102 and 108, *Chamærhododendros*, their seed seem to be light and chaffy, which is the worst

sort of seed to send over for keeping; that I don't expect we shall ever raise them here, but must depend on plants; so, prithee, go at a proper season to the nearest place, and load a pair of panniers or baskets, with young plants, and set some in thy garden to take root, and send half a dozen at a time; for this seems to me to be the best tree that has been discovered in your province.

Indeed, in South Carolina, there is the *Magnolia*, or great Laurel-leaved Tulip Tree, which is an evergreen—grows sixty feet high—its leaves are as large again as yours, and the flowers white, of a rose or water-lily figure, but as large as the crown of one's hat. There is one in England that flowers every year finely; and I have several plants in my garden.

Another particular thing I must request, that is to get a handful or two of White Cedar cones, for Philip Miller; for, in separating the seeds, by accident he had none of the White Cedar cones." p. 96.

"I assure thee thou canst not do me a greater pleasure than to entertain me with any history of nature. But this I must tell thee, as a friend: I am afraid thou takes up too much of thy time to oblige me. I am so much thy friend that I entreat thee not to let any of thy affairs suffer on my account.

Indeed, when thou art collecting, thou art paid for it. I hope this year will prove kindly, that we may have a collection of oaks. Send but a few of the White Oak, and the Swamp Spanish Oak. I believe most thou sent are come up, and thrive finely. We have a great quantity of the Cherry up; it is a fine plant. Red Cedar comes up very strong; but I don't see the Sassafras. Tulip Poplar in great abundance. This, with most other of your country seeds, will some come up the first—but more the second year. Send me more Tulip Poplar. Some of your Swamp Laurel or Bay (*Magnolia glauca*, L.) is come up, and thrives well; but we want a great deal more of its cones. It is a fine plant; and when the wind turns up the silver side of its leaves, it has a pretty effect. As to the Bay Laurel, called Ivy (*Kalmia*, L.) it is in vain to send any of its seed, (unless soon as gathered sown in a bed of mould,) for it is so small and chaffy, it will not keep. I have had a great deal from Virginia; but none grows. There is no way so good as plants. I have sufficient for myself, but Lord Petre may want some. But a year or two hence may do. I am afraid a like fate will attend the seed of that noble Laurel thou discovered near the Blue Mts. A cargo of growing plants will be a rarity worth accepting. Next time thou must try what thou canst do.

First, get a strong cargo of young plants into thy garden. Pray make it thy business this fall; and when they have stood a year, and drawn root, they may with more safety be sent, as opportunity offers." pp. 98, 99.

I shall now, tell thee something, which very

much pleased me, and will surprise thee. The box of turtle eggs, (which was an ingenious thought of thine to send,) on the day I brought it from on board ship, being the 20th of October, I took off the lid having a mind to see the eggs, and on peeping about I saw a little head just above the ground, and while I was looking, I saw the ground move in a place or two more. In short, in the space of three or four hours, eight tortoises were hatched. It was very well worth observing, how artfully they disengaged themselves from the shell, and then with their fore feet scratched their eyes open. They have had many visitors, such a thing never happening, I dare say, in England before. They seem to be all one sort, but three mentions two. I tried if they would eat, with lettuce leaves, &c., or if they would drink, but they regarded neither. But after they had been crawling about three or four days, they buried themselves in the earth in the box, where they continue. Early in the spring I design to turn them out at Lord Petre's, who has large ponds, if they are water turtles." p. 109.

"I commend thy method of sowing Parsley, &c. with the fir seed. In the northern provinces of Germany, where it is sandy and barren and will produce little but firs and pines, to prevent the seedlings being burnt up, they sow oats with their seed, to screen it in the summer, and its dry straw protects it in the winter; for they do not reap the oats; and one reason may be, in such a barren soil, they are not worth it." p. 191.

"This reminds me of the elegant species of the Water Lily (*Nelumbium luteum*, Wild.) that is in the Jerseys. Does it occupy such a depth of water that the roots can't be come at? Thou art ambitious of plants from us; but here is the most charming plant of Asia including China and Egypt, in thy neighbourhood, and yet so little is thy curiosity, or industry, that thou can'st not avail thyself of so great a curiosity. Thou that hast springs in thy garden to make a pond for its reception; or a river so close by, if more proper for its culture. Prithee, John, never more let me reproach thy want of taste and curiosity in this article. I wish thou could employ some person to gather the seeds when ripe, and put in a bottle of water, with a little sand or earth in its bottom. I conceive, thus preserved, they would come in a growing state to us. This I have mentioned often before; but roots well packed in a great deal of wet moss, in a box, would do better.

If I was in thy place, I should spare no pains or expense to be possessed of a curiosity, that none in the province could boast of beside thyself; which thou art ambitious of in other plants in no comparison so charming when in flower." p. 222, 223.

"I have a sprig (in flower) of the *Kalmia* in water, and it stares me in the face all the while I am writing, saying, or seeming to say, 'As

you are so fond of me, tell my friend, John Bartram, who sent me, to send more to keep me company; for they will be sure to be well nursed and well treated.'" p. 228.

"They enrich our knowledge, and anticipate our pleasures, and give us a good idea of the riches in store, to gratify the botanists of after ages. O, Botany! delightfulest of all sciences! There is no end of thy gratifications. All botanists will join with me in thanking my dear John for his unwearied pains to gratify every inquisitive genius. I have sent Linnæus a specimen, and one leaf of *Tipitiwitchet* sensitive; only to him would I spare such a jewel. Pray send more specimens. I am afraid we can never raise it. Linnæus will be in raptures at the sight of it." p. 251.

There is too little from BARTRAM himself, but the following show his tone, and the nature of his connection with his friend COLLINSON:

[BARTRAM TO COLLINSON.]

"In thy letter of December the 20th, thee supposes me to spend five or six weeks in collections for you, and that ten pounds will defray all my annual expenses; but I assure thee, I spend more than twice that time annually; and ten pounds will not, at a moderate expense, defray my charges abroad; besides my neglect of business at home, in allowing, harvest, and seed time.

Indeed I was more than two weeks in gathering the small acorns of the willow-leaved oak, which are very scarce, and falling with the leaves, so that daily I had to rake up the leaves and shake the acorns out, before they were devoured by the squirrels and hogs; and I reckoned it good luck if I could gather 20 under one tree, and hardly one in twenty bore any. Yet I don't begrudge my labor; but would do anything reasonable to serve you. But by the sequel of thy letter, you are not sensible of the fourth part of the pains I take to oblige you." p. 119, 120.

December, 1738.

"Dear Friend:—I have performed my journey through Maryland and Virginia, as far as Williamsburgh, so up James river to the mountains, so over and between the mountains, in many very crooked turnings and windings, in which, according to the nearest computation I can make, between my setting out and my returning home, I travelled 1100 miles in five weeks time; having rested but one day in all that time, and that was at Williamsburgh. I happened to go in the only time for gathering of seeds—the autumn!—both in Maryland and Virginia; and the exceeding mild fall, favored the opportunity on and between the mountains, whereby I gathered abundance of kinds of seeds, in perfection, which have not ripened for several years, because of the early frosts, which came a month or six weeks sooner

than they did this year. Indeed, beyond the mountains in Virginia and Pennsylvania, there is a great variety, that I saw; and the inhabitants say, the ground is covered with delicate blue flowers in the spring, which are not to be found after the hot weather comes on. When I first began to find many curious seeds, I wrapped them up in paper separately, and put them into my leather bags; but in riding and shaking, they fretted the paper and mixed together. So, afterwards, I gathered altogether as I found them, which I send to you all mixed, and as they are most of them perennials, I suppose they will do well enough sown together." p. 120, 121.

"I am greatly obliged to thee for thy necessary present of a suit of clothes, which just came in the right time; and Barclay's Apology, I shall take care of for thy sake. It answers thy advice, much better than if thee had sent me one of Natural History, or Botany, which I should have spent ten times the hours in reading of, while I might have laboured for the maintenance of my family. Indeed, I have little respect to *apologies* and disputes about the ceremonial part of religion, which often introduce animosities, confusion, and disorders in the mind, and sometimes body too: but, dear Peter, let us worship the one Almighty Power, in sincerity of heart, with resignation to his Divine will,—doing to others as we would have them to do to us, if we were in their circumstances. Living in love and innocency, we may die in hope." p. 159.

September 5th, 1742.

"Dear Peter,—I am lately returned from the Katskill Mts., having gathered a fine parcel of the Balm cones, just at the time of their full ripeness; with many other curious seeds, and other fine curiosities. This hath been a happy journey: and I met with our friend, Doctor Colden, who received and entertained me with all the demonstrations of civility and respect that were convenient. He is one of the most facetious, agreeable gentlemen I ever met with; and his capacity thee may judge of, by the last account he gave thee of the economy of the Five Nations, and some other subjects which he may soon acquaint thee with. I hope to give thee a fuller account of him this fall." pp. 160, 161.

The following letter will give modern readers a taste of the feelings of the colonists—even the milder and more peaceable of them, regarding the Indians:

September 30, 1763.

Dear Peter—I have now travelled near 30 years through our provinces, and in some twenty towns in the same provinces, and yet never, as I remember, once found a single species in all after times, that I did not observe in my first journey through the same province. But many times I found that

plant the first, which neither I nor any person could find after; which plants I suppose were destroyed by the cattle. The first time I crossed the Shenandoah, I saw one or two plants, or rather stalk and seed of the *Meadia*, on its bank. I jumped off, got the seed and brought it home, sent part to thee, and part I sowed myself; both which succeeded, and if I had not gone to that spot perhaps it had been wholly lost to the world. John Clayton asked me where I found it. I described the very spot to him, but neither he nor any person from him could find it after. Oh! what a noble discovery I could have made on the banks of the Ohio and Mississippi if I had gone down, and the Indians had been peaceably inclined—as I knew many plants that grew on its northeast branches. But we are at present all disappointed. Thy son William wanted to go as draughtsman.

I read lately, in our newspaper, of a noble and absolutely necessary scheme that was proposed in England, if it was practicable. That was, to search all the country of Canada and Louisiana for all natural productions, convenient situations for manufactories, and different soils, minerals and vegetables. The last of which I dare take upon myself, as I know more of the North American plants than any others. But this would alarm the Indians to the highest degree. All the discoverers would be exposed to the greatest savage cruelty—the gun, tomahawk, or revengeful devouring jaws. Before this scheme can be executed, the Indians must be subdued, or drove about a thousand miles back. No treaty will make discoverers safe. Many years past, in our most peaceable times, far beyond our mountains, as I was walking in a path with an Indian guide, hired for two dollars, an Indian man met me, and pulled of my hat in a great passion, and *chawed* it all round—I suppose to show me that they would eat me if I came into that country again.

The most probable and only method to establish a lasting peace with the barbarous Indians, is to *bang them stoutly*, and make them sensible that we are men, whom they, for many years, despised as women. Until then, it is only throwing away men, blood and treasure to make peace with them. They will not keep to any treaty of peace. They are all with their fathers (alias) the French, resolved to drive the English out of North America. And although some tribes pretend to be partial friends, it is only with a design to supply the rest with ammunition to murder us. Perhaps now, and only now, is the critical time offered to Britain to secure not only her old possessions, but her so much boasted new acquisitions, by sending us sufficient supplies to repel effectually those barbarous savages.

I am heartily glad that young Lord Petre is possessed of the botanical taste of his father. I wish he may resemble him in virtue. I have in-

tended to inquire after him and his mother in every late letter. The pear raised from his seed hath borne a number of the finest relished fruit. I think a better is not in the world."*

Some original letters from LINNÆUS, known to have formerly been in the Bartram family, are missing; they have proba-

bly been abstracted to send to Europe, before their value was sufficiently appreciated.

We warmly commend this work to all lovers of natural history and natural people.

Yours, PHILADELPHIA.

FOREIGN NOTICES.

ON THE ODORS OF PLANTS AND THE MODE OF OBTAINING THEM.—

"Unbidden earth shall wreathing flowers bring,
And fragrant herbs the promises of spring,
As her first offering to the ruling king."—*Dryden's Virgil.*

The exquisite pleasure derived from smelling at fragrant flowers would almost instinctively induce man to attempt to separate the odoriferous principle from them, so as to have the perfume when the season denies the flowers; and thus we find the alchemists of old torturing the plants in every way their invention could devise for this end; their experiments were not wholly unsuccessful, and indeed upon their foundation the whole art of perfumery has been reared. Besides the uses in perfumery, the essential oils (the matters to which the odor of the plant is due) are used by druggists to cover the bad taste of medicines. Peppermint, Coriander, and Cassia, are much used for this purpose, and as the sense of smell has much to do with taste, their utility is obvious; by closing the nostrils, very nasty physics may be swallowed without tasting, particularly Rhubarb. We here see the advantage of the domestic subterfuge of "a little peppermint" with a home "dose of castor oil," or a peppermint lozenge before the "cup of salts and senna."

Without recapitulating those facts which may be found diffused through nearly all the old authors on medical botany and works of this character, we may state at once the mode of operation adopted by the practical perfumer of the present day for preparing the various extracts or essences, waters, oils, &c., used in his calling. The processes are divided into four distinct operations.

1. *Expression* or the squeezing the odor-giving part of the plant between two metal plates, which are generally made hot (though sometimes cold, and hence the term "cold drawn") and forced together by a powerful screw. This process is only adopted where the plant is very prolific in its oil, i. e., odor.

* This tree, known as Lady Petre's pear tree, is still, (1848), flourishing at the Bartram garden, standing close by the house. [We have eaten pears from this tree, when dining at the Bartram house, which were of the highest quality, not surpassed by any specimens of Doyenne or butter pears. ED. HORT.]

2. *Distillation*.—The plant or part required is placed in a metal pan, and covered with water; to the pan a dome-shaped lid is fitted, terminating with a pipe, which is twisted cork-screw fashion, and fixed in a bucket, with the end peeping out like a tap in a barrel. The water in the still is made to boil, and having no other exit, the steam must pass through the coiled pipe, which being surrounded by cold water in the bucket, condenses the vapor before it can arrive at the tap; with the steam the volatile oil or perfume rises, and is liquified at the same time; the liquids which thus run over, on standing for a time, separate into two portions, and are finally divided with a funnel having a stopcock in the narrow part of it. By this process, the majority of the oils or perfumes are procured; it so happens, however, that the finest odors, the *recherche*, as the French say, cannot be procured by this method. Then recourse is had to—

3. *Maceration*.—This operation is conducted thus. For what is called pommade, a certain quantity of purified hog's lard and mutton suet are put into a clean metal pan; this being melted, the kind of flowers required for the odor wanted, are carefully picked and put into the liquid fat, and allowed to remain from 12 to 48 hours; the fat has a particular attraction or affinity for the oil of flowers, and thus, as it were, draws it out of them, and becomes itself by their aid, highly perfumed; the fat is strained from the spent flowers, and fresh are added four or five times over, till the pommade is of the required strength. For perfumed oils the same operation is followed, but in lieu of the lard and suet, fine olive oil, or oil of Ben, is used, and the same results are obtained. These preparations are called *Huiles Antiques*, or commonly French oils of such and such a flower. When neither of the foregoing processes give satisfactory results, the method of procedure adopted is by—

4. *Absorption*.—The odors of some flowers are so delicate, or, as the French call it, *en fleurage*, that the heat required in the previously named process would greatly modify, if not entirely spoil them; this process is, therefore, conducted cold, thus: Square frames, about 3 inches deep, with a glass bottom, say 2 feet wide and 3 feet long, are

procured; over the glass, a layer of fat (lard and suet) is spread, about half an inch thick, with a kind of plaster knife or spatula; into this the flower buds are stuck and ranged completely over it, and there left from 12 to 72 hours. Some houses have got 2000 and 3000 such frames; as they are filled they are piled one over the other; the flowers are changed so long as the plant continues in season, sometimes over a time of 2 or 3 months.

For oils of the same plants, coarse linen cloths are imbued with the finest olive oil, and stretched upon a frame made of iron; on these the flowers are laid, and suffered to remain a few days. This operation is repeated several times, after which the cloths are subject to great pressure to remove the now perfumed oil. As we cannot give any general rule for working without misleading the reader, we prefer explaining the process required when we come to speak of the individual flower or plant.

Whenever a still is named, or the article is said to be distilled or "drawn," it must be understood to be done so by steam apparatus, as this is the only mode which can be adopted for obtaining any thing like a delicate odor, the old plan of having the fire immediately under the still, conveying an empyreumatic smell to the result has become obsolete in every well regulated perfumatory. The steam-still differs from the one described only in the lower part or pan, which is made double, so as to allow steam from a boiler to circulate round the pan for the purpose of boiling the contents, instead of the direct fire. In macerating, the heat is applied in the same way, or by a contrivance like the glue-pot, as made use of now-a-days. This description of apparatus will be found very useful for experiments, which we will suggest by-and-bye. The perfumes, as found in the shops of Paris and London, are either simple or compound; the former are called Extracts and the latter Bouquets, which are mixtures of the Extracts, so compounded in quantity that no one flower can be discovered as predominating over the odor of another; and when made of the delicate-scented flowers carefully blended, they produce an exquisite sensation on the olfactory nerves, and are therefore much prized by those whose wealth enables them to indulge in such pleasures. In a future article we shall explain the mode of obtaining the simple extracts, and if space allow, detail the formula for a few of the most approved bouquets, waters, &c. as *Eau de Cologne* and *Arquebuzade*. *P. Gardeners' Chronicle*.

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EXTINGUISHING FIRE. Several months have now elapsed since we drew attention to a most important contrivance for EXTINGUISHING FIRE WITH OUT WATER. Arrangements for the sale of the apparatus being now complete, we gladly return to the subject. We are so much accustomed to regard water as the only available material which can be employed in case of conflagration, that the attention of scientific men has hitherto been diverted from de-

vising means of applying other well-known agents possessing the same power. And yet water is but a feeble ally, even when it can be had; while the having it at command involves such heavy and costly apparatus that it can scarcely be called available, unless in cities. As for country houses, villages or rural property, that may be said to be, by our present arrangements, consigned to almost inevitable destruction in case of fire.

It has occurred to Mr. PHILLIPS, a naval officer, that other agents may be employed, and with far greater effect than water, in extinguishing fire. We all know that flame cannot exist for an instant in carbonic acid gas, or in the air called nitrogen; but the difficulty has been how to obtain any such instantaneous and ample supply of them as would be capable of arresting a conflagration. That difficulty has been wholly overcome. By the sudden ignition of a mixture of charcoal, gypsum, and saltpetre, in a vessel containing water, a prodigious volume of carbonic acid, nitrogen, and aqueous vapour is instantaneously extricated, and when directed upon a fire, as instantaneously extinguishes it, or, as Mr. PHILLIPS says without exaggeration, annihilates it.

The apparatus by means of which this great result is obtained is not bulky, nor costly, nor liable to get out of order, nor tedious in its application, nor dangerous to keep, nor difficult to apply; it is the reverse of all these. With an apparatus which might, without the slightest inconvenience, be kept in a lady's bed-room, not bigger, in fact, than a muff-box, we have ourselves seen a fire of timber-shavings, tar, and combustibles, blazing so fiercely that it could not be approached within 20 feet without inconvenience, extinguished in a few seconds by a lad. Such a fire would not have been put out by a common fire-engine in a quarter of an hour, even if the machine, the men, and the water were all at hand when it broke out.

Persons in cities may be indifferent to fire, because they have the great insurance companies incessantly on guard; yet even they are not free from the most fearful risks. A curtain catches fire, wood-work follows, the firemen are sent for, they arrive, the flames are extinguished (perhaps); but the room at least is gutted, and the house is left a wreck, with windows smashed, and the furniture and fittings ruined by the inundation that is employed. An "annihilator" in a dwelling-house would render all this impossible; for, in its employment, nothing is perceptible except its marvellous efficiency, brought about by a cloud of pure vapour, scentless and incapable of soiling a muslin window curtain. A single discharge of this vapour would instantaneously extinguish the fiercest fire that ever raged in a London chimney.

If it is attended with these advantages even in a city, how much is its value enhanced when we consider the unprotected, and unprotected, condition of all sorts of country property? Mansions and cottages, stables, ricks, and timber-yards, can scarcely be said to enjoy any protection from fire.

If burnt they may be paid for by the insurance companies; but there is no means of preventing their destruction when fired. No engines can be had; or no water can be found in sufficient quantity.

Every day brings examples of this. We find the following, for instance, in this morning's daily paper: On Tuesday morning, about 10 o'clock, a fire was discovered in a stack-yard, containing above 12 ricks of corn, in a village six miles from Nottingham. The Nottingham fire-engines were sent for without delay, but by 2 o'clock eight stacks of Wheat were consumed. The fire had by this time reached a barn filled with corn, which, with various carts and implements, were speedily consumed. The dwelling house was only saved by the great exertions of villagers and firemen; a corner of it was burnt. *The fire continued to rage until the evening.* Had an annihilator been at hand the fire would have been extinguished while a man was mounting a horse, in order to search for a fire-engine.

"The immense ratio," says Mr. PHILLIPS, "in which fire is multiplied by time, makes it an important desideratum to have at hand the means of extinguishing a fire as soon as possible after discovery. The rapidity of its progress over inflammable materials is such, that a fire extinguishable by one gallon of water will in five minutes require one hundred gallons, and in ten minutes, one thousand gallons." A supply which it is needless to say there is generally no means of procuring with the necessary promptness. An annihilator of proper dimensions is an effectual and incessant guard against all such contingencies.

That this contrivance will come into universal use we entertain no doubt; for that it will perform unerringly all that it professes to perform is certain. Of its merits, then, it is impossible to say too much; and we earnestly recommend it to our readers, who will be able to obtain full particulars concerning the details of its application at the Company's office in Leadenhall street, No. 105.—*Gard. Chron.*

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DRAINING WARMS THE SOIL.—It is reported that in a garden in Hampshire the TEMPERATURE OF THE SOIL has been raised 15° by draining heavy land 4½ feet deep. This if true is a prodigious gain—beyond anything that we could have anticipated as a permanent result—even in summer. Winter is of course excluded from the statement. Circumstances prevent our examining the statement in the case alluded to; but, allowing for some exaggeration, there can be no doubt that a result sufficiently approaching it to be of the greatest value, is attainable.

It is not now, for the first time, that the public attention has been drawn in the *Gardener's Chronicle* to this highly important subject. On the contrary we have on several previous occasions pointed out the undoubted fact that an increased temperature is one of the most valuable

results of deep drainage; a more probable cause of the immediate improvement of the health of crops than the mere removal of water, or introduction of air into the soil. The nature of deep draining is in fact such as to render additional access of air to the roots of plants too inconsiderable to be appreciable. It is only when deep draining and deep trenching accompany each other that any great access of air to roots beyond what is customary can be anticipated. Where both are secured the effect is certainly magical.

We have now before us a piece of land which in 1845 was trenched and drained to the utmost depth which the nature of the situation would permit. The trenching was through London clay down to gravel to about 3½ feet; the draining was the same. It could be no deeper. In the winter of 1845-6 it was planted; and the following is now the height of some of the trees after four seasons growth. Ashes, 13 to 15 feet; Elms, 12 to 13 feet; Oaks 12 feet; Alders, 15 feet; Larch, 13 to 15 feet; Mountain Ashes, 11 to 13 feet. Yews have made from 11 to 24 inches growth; Douglas Firs, *transplanted between August and October 1848*, 15 to 31 inches; Cryptomerias, 21 to 24 inches; and Hollies 18 to 24 inches, during the last summer; and what is not a little remarkable, a Fuchsia has lived in this place without any protection, only dying annually down to the ground level. All the plants now measured were common nursery stuff when planted. Of course the whole plantation does not consist of trees that have grown at the same rates as those just mentioned; such a thing never occurred; but the trees are in general in the highest possible health and vigour in a cold tenacious clay, which before being trenched would hardly bear Grass enough to make it worth cultivation.

The improved condition of the land has no doubt contributed to this result; but we think it impossible to doubt that a considerable increase of temperature of the soil must have mainly contributed to produce such exuberant growth. Unfortunately this cannot now be made matter of proof, because no register was kept of the temperature before the trenching and draining were resorted to.

There exists in Essex, not a hundred miles from Brentwood, an orchard of Apples, Pears, Plums, and Cherries, which was planted about 22 years ago in a heavy clay trenched down to an iron pan on which it lies. For a few years the trees grew pretty well, that is to say, as long as their roots were near the surface and received the warmth of the summer's sun; but as they advanced downwards the growth became "small by degrees and beautifully less," till at last it ceased, and nothing flourished but an abundance of grey lichens, with which the branches were covered. The owner was advised to drain it 3 feet below the pan. In the first year afterwards vitality was roused so effectually that the lichens began to disappear, cast off by the swelling bark, and the last

stage of decrepitude had been exchanged by the end of the first six months for youthful vigour. In the second and third seasons after the draining, the trees made shoots from 4 to 5 feet long.

We have no doubt that the main cause of this remarkable and sudden change was the elevation of temperature consequent upon very deep drainage. Rain becomes heated by the surface soil, and carries its temperature with it as far as it sinks into the soil. The gain in this way is variously estimated at from 10° to 15° in summer—an enormous gain, which places plants on a hot-bed—for soil heated 10° above the ordinary temperature is nothing else. Deep draining, therefore, not only offers considerable security against the introduction of roots into the water channels, but has the great and unsuspected advantage of considerably raising the temperature of the earth which is in contact with the drains, deep as they may be, for water cannot soak rapidly into earth without carrying warmth along with it. This is now so well understood by men of intelligence that it is superfluous to dwell upon it.—*Lindley, Gard. Chron.*

NOTES UPON VIOLETS.—*Viola Odorata*.—There are few of our lady friends to whom a small bouquet of sweet scented violets would not be desirable in the chilly days of winter and the earlier stormier periods of spring. A great gardening author once stated, that if three flower-pots were kept in a window during the winter, one of the three should be devoted to the culture of violets. Right well did he know how dear that little flower was to the human heart! Years have rolled on, and life, with its stern duties, has somewhat shaded and blunted the little of romance and poetry within us, and yet the sight of the diminutive simple violet, when in a musing mood, has conjured up associations that enabled us, as of yore, to traverse the brake, and walk the dell, with companions—many of whom are gone—all are scattered—while their arch quizzing looks, and pealing voices, when to a favourite fair one the first-found flowers were stealthily and bashfully presented, are as present to our mind as they were upon the occasion when youth was young. And where resides the charm? The heartsease (*viola tricolor*) is not only frequently odiferous, but it is often strikingly beautiful, from the variety of its markings and the harmonious combination and contrast of its colours; and yet, much as it is loved, and sweet and musical as is its name, it holds not the same place in our sympathies as the diminutive violet, that has little to attract the eye; but which, like other objects, human as well as floral, would pass unnoticed in the crowd were it not for the beneficence they shed—the fragrance which they yield. In this love of the violet—not merely from its poetic associations, but from its own usefulness and fragrance—we are furnished with a demonstration, that however men may be tickled with gaudy show, brilliant splendour, and pompous pageantry, yet in their heart of hearts they conse-

crate the highest place to retiring virtue—the unobtrusive generosity—to those “who do good by stealth, and blush to find its fame.”

At one time virtue was made from the flowers of the sweet violet. A blue solution of its petal was, and is, used by chemists as a test for acids and alkalies: and even now the dried petals are used as a laxative, and a mitigator of pain in the case of children. When gathered with stalks and placed in water they will keep fresh and give out their perfume for a week; but if the flowers are dried in the shade, before they are too much expanded, they will retain their fragrance for a very long time. I am not aware that this is generally known: I found it out by accident. A waistcoat had not been worn for a twelvemonth—when put on it was quite fragrant with violets—on close examination, a few withered flowers were found in the pockets, which were quite odiferous then, though placed there fully twelve months before. We shall now glance at a few of the best varieties.

The Russian Blue Violet is as hardy as our common one, that cheers with its perfume our banks and hedge-rows in spring. The flowers are much the same in size and colour, but possess the advantage of blooming more profusely and earlier, being generally in flower by the end of October. They flower best in loamy soil well drained. In light sandy soil they are apt to grow too much to foliage. They are propagated by seed, but more generally by offsets or runners, or by the dividing of the old plants. The old crown and runners produced during the summer, will all bear blooms. Sheltered with boughs, &c., at the foot of a wall, paling, or hedge, or planted in a bed with a frame set over them, and defended from frost, they will bloom freely all the winter. By filling some pots or boxes with young plants in September, they will be fitted for the window, setting them outside in open weather, and inside when frosty and stormy. A superior (or what is called a superior) one is being advertised, which we have not yet seen.

The Double Blue is more compact in its growth; it flourishes best in a deep loamy well drained soil. In such circumstances the flower will be larger and sweeter than upon lighter land. They produce their blooms from the old Crown, and also from the runners formed in the early part of summer. They may remain, therefore, several years upon the same ground, and little attention paid to cutting or pruning them. The flowers, however, will not be so fine as from plantations one or two years old. They will flower in pots, either for the windows or greenhouse, and will be forwarded, if planted under a glass case, with plenty of air, but they will not stand much forcing, the flowers when thus obtained neither being large nor rich in their perfume. When grown in pots the soil should be rich and loamy. The plants should be raised from off-sets planted out in April or May, kept free

from runners, well watered during summer, and potted with balls in the end of September.

The Double White requires similar treatment; but altogether it is much more tender, and is generally a great favorite, among the ladies. The soil should be drier and of a lighter texture than for the blue variety, and, if exposed in a cold situation, a few laurel boughs stuck round it in winter will do good service.

The Tree Violet is also a double blue. The flower is somewhat rounded and conical, while the common blue is flattish; this forms a distinctive feature. The flowers are seldom so large as the double common one, but its leaves are also generally smaller. Its chief recommendation is, that it flowers as freely and as early as the Russian; it will bloom out of doors, protected from storms, in frames and in pots during the winter. A few in pots placed in a window or in a greenhouse, will bloom profusely. It will also admit of being slightly forced and prefers a lighter soil than the common blue. All the violets may be grown in the tree form, and some years ago we amused ourselves with experiments in this direction, though we never could see much beauty in them when obtained. This will account for the common blue, &c., having been sent out under the name of the tree violet, and thus cause disappointment because they did not bloom early. The one under discussion seems, however, to take the tree form most easily. This is effected by cutting off the side shoots, and training to one shoot, with its crown, or tuft of leaves on its summit. By repeating the process for years, you may get plants with stems from six inches to two feet in length; but to approach the latter height, few or no laterals, or runners, must be allowed to grow until the desired height is attained, and then you will have something like *mops*, in miniature to look upon. When the stem has grown from six to eighteen inches in height, and the runners are then encouraged to grow, so as to hang in festoons from the crown at the top, and all are furnished with bloom, the plants present a very interesting appearance. Without this is done, the mere tree system had better be avoided. The plants will bloom as well, and look more natural, when covering the surface of the soil. Propagation is easily effected by planting out the runners in a shady place in summer, or inserting them under a hand-light in spring.

The Neapolitan Violet is deservedly a general favourite. The flower is large and double, lilac blue, and beautifully scented. It delights in a rich loam, with an addition of either peat or leaf mould. Unless in warm sheltered places it does little good out of doors, and even then will only generally produce its flowers late in the spring. Its great recommendation is, that it will bloom all the winter in frames or pits, and in pots in the conservatory, while it will stand a little artificial heat, without injury either to the size or the odour of the flowers. It may be forwarded in any place that would suit strawberries before they come into

bloom; in other words where there is an average temperature of from 55° to 60°. In growing it in pits or in pots, young plants only should be used. A distinctive feature in its management arises from the fact, that the runners produced in summer will not bloom the following winter and spring. In preparing and growing plants for blooming, therefore, the runners should be carefully removed, that more strength may be thrown into the crown of the plant, and that the juices there collected, may be more perfectly organised by the removal of all shading and encumbering adjuncts. As the flowering season approaches its termination, runners may be allowed to grow for propagating, for the next season's supply. These may be taken off and inserted as cuttings, under a hand-light, upon a slight hot-bed, in April or May; when struck the hand-light should be removed, and by-and-by the plants should be transferred to a bed six inches apart, there to grow during the summer, in lightish rich loamy soil, well supplied with water, the ground frequently stirred, and *not a runner allowed to grow*. Where hand-lights are not come-at-able, the same object may almost as securely be gained by dividing the old plants into little pieces, planting them out like those raised from cuttings, and attending to them in a similar way. They may be lifted with balls, either for potting or planting under glass in September; in either case, drainage must be carefully attended to. In planting in a bed, lay down, first of all, a foot of faggots, &c., upon this place another foot of hot dung not much decomposed, and then a requisite layer of soil rather dry. The faggots will ensure you drainage, and enable you to throw a little heat into the bed, when necessary, by linings; the dung will encourage by its heat, the fresh rooting of the plants in the soil.

Place the plants in rows across the bed, just so thick that they do not touch each other; water each row thoroughly as you proceed, and then cover the surface with the dry soil, which will both prevent the evaporation of moisture from the roots, and keep the atmosphere of the frame or pit dry; to ensure which more effectually, and also prevent the ravages of slugs, &c., strew over the surface of the bed, when cleaning it, several times during the winter, with dry charecoal dust, quick-lime, and burnt earth, or even dry sand—an application that will be useful to all others, whether in the open air or under glass; and by attending to their wants, in protecting, air giving, and watering, you will be well rewarded. *R. Fish, in the Cottage Gardener.*

THE FALL OF LEAVES.—The articulations are those parts of a plant where, at a certain period of their growth, solutions of continuity are made so naturally and regularly as to preclude the supposition that the dislocation is produced by accident. If we examine them when the shoots are young and vigorous, in the early spring, we shall find that there is a faint line externally that marks the position of the future joint, but that internally

there is scarcely any indication of its existence. At this time, if we call in the microscope to our aid, we shall find that, at the exterior line of demarcation, there is simply an increased deposit in the cells composing the bark, and a very minute process passing from its inner surface. The line of junction in the interior rarely presents any change more marked than a larger deposit of raphides or crystals there, than occurs elsewhere, or occasionally a deposit of some dark resinous material. Iodine, at this time, stains the whole tissue yellow, and scarcely detects the existence of a single granule of starch either in the leaf or stem. At this time the leaves require considerable force to separate them from the branches—so much so, that we sometimes find that they bring with them some of the wood from the parent stem; and if a branch is cut off and dried, the leaves cannot be torn from their attachment without great skill and management, showing that the joint is not yet complete. By and by, however, a change begins to take place; with the advance of the season, or from some other cause depending upon the situation and idiosyncrasy of the plant, the line of demarcation becomes well marked, and the eye can detect it throughout the whole of its course, internally as well as externally. The microscope shows at the same time, that the process of bark, which was at first rudimentary, has gradually increased, and that an evident change is taking place in the nature of the cells which contain the raphides. Iodine now tinges the proximal side of the junction a deeper hue than the distal, and we begin, here and there to see a blue dot, marking the existence of a starchy mass. As the season advances, this change becomes more apparent. The process of bark increases perceptibly, till it reaches the fibro-vascular bundles, when it receives a slight check, but soon continues its progress until these are nearly eaten through or absorbed, and the prolongation of the epidermis has entirely covered the surface of the articulation. At the same time (in the Poplar very distinctly, and in other plants more obscurely), a great change is taking place in the contents of the cells, on both sides of this prolongation, in the formation of a large quantity of starch, probably for the nutrition of the young leaf-bud, when it begins to expand next year. In the Poplar this deposit of starch takes place in the bark and wood at the base of the leaves to a great extent, so much so, that iodine renders a section completely dark; and not only at this spot, but for a short distance also on the distal side of the joint. If we now make a separation of the base of the petiole and the stem under the microscope, we shall find that the disruption takes place invariably through the cellular tissue, external to the prolongation of the epidermis, so that when it has been effected, the tree does not suffer from the effects of an open wound. The change that takes place in the cellular tissue prior to its disruption, appears to me to be simply

a sort of self-disintegration; the cells contract and become rounder, and separate their walls from each other, so as to destroy their cohesion. I am very greatly inclined to think, from the generation of starch in their interior, that the process is altogether a *vital one*; that it is, in fact, the last act of life at the base of the petiole. We are strengthened in the belief of the vital character of the act, when we consider that the provision for the fall of the leaf, the formation of the articulation, has been going on from the earliest existence of the petiole, that it advances with the growth of the leaf, and is not complete until the leaf itself is of no more use. It must be borne in mind too, that it is not necessary that articulated leaves should be dead when they fall, as we frequently find them lying upon the ground green and apparently vigorous for a time; and if we examine any of them that have fallen naturally, we shall frequently, if not always, find that the base of the petiole is plump, fresh, and apparently living, which it would not be were its vitality entirely gone. The provision for the separation being once complete, it requires little to effect it; a desiccation of one side of the leaf-stalk, by causing an effort of torsion, will readily break through the small remains of the fibro-vascular bundles; or the increased size of the coming leaf-bud will snap them; or if these causes are not in operation, a gust of wind, a heavy shower, or even the simple weight of the lamina, will be enough to disrupt the small connections, and send the suicidal member to its grave. Such is the history of the fall of the leaf. We have found that it is not an accidental occurrence, arising simply from the vicissitudes of temperature and the like, but a regular and vital process, which commences with the first formation of the organ, and is completed only when that is no longer useful: and we cannot help admiring that wonderful provision that heals the wound even before it is absolutely made, and affords a covering from atmospheric changes before the part can be subjected to them. In the Copper-Beech, and some other trees whose leaves die some time before they fall off, the development of the starch-bearing cells on the distal side of the articulation does not take place; nor is there that disruption or disintegration of the cell-walls which is ordinarily met with. The joint, however, consists of laxer tissue, which is readily broken through by any accidental violence, such as wind and storms of rain, or by the growth of the new leaf at the base of the petiole at the commencement of spring.

Botanical Gazette.

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 ORCHIDS FROM SEED.—I have read with interest the previous communications on the crossing and raising of Orchids from seed, which have appeared in your pages, and, from what has come under my notice, I have not the least doubt of the practicability of the affair. *Dendrobium nobile* crossed with *D. chrysanthemum* produced me a

pod of seed, and when the latter appeared to be ripe, I sowed it in three ways: some on a log, with natural moss growing on it, suspended in a shady part of the Orchid-house; some was sown on an inverted flower-pot, the inside of which was stuffed with sphagnum, and placed in a pan of water, which answered well, as far as keeping the pot moist was concerned, but neither of these two sowings vegetated. For the third sowing I procured a pan similar to the double flower-pot, but without a hole at the bottom. It was 12 inches in diameter and 3 inches deep. A cavity about an inch wide ran all round between the outer and inner rim of the pan; this was filled with sand.

The inside of the pan was about 10 inches wide and $2\frac{1}{2}$ inches deep; it was filled with water, in which was placed a piece of cork about 8 inches wide and 1 inch thick. I sowed the remaining portion of seed on the cork, which was then gently pressed under the water, and after being held there a short time, it was allowed to float; this caused the seed to adhere the better to it. A few pins were placed round the outer rim of the cork, in the lower edge, a little bent downwards, so as to be under the water; these pins prevented the cork from coming to the side, and caused it to form a floating island, on which no slug, centipede, or woodlouse could establish itself, and by which means the tender seedlings were preserved from the ravages of these destructive pests in an Orchid house. The whole was covered with a bell glass, which rested on the sand between the two rims of the pan, and placed in a shady part of the Orchid house. In about three weeks, two seeds had vegetated, and ultimately five plants appeared; they continued to grow, and seemed to be going on very well, the roots had fast hold of the cork; they were then about four months old.

At that time I began to take the glass off them at night, covering them again in the morning; after doing this for about three weeks, I took the cork out of the water and suspended it to the roof of the house, in which place it remained about three weeks; at that time the plants looked healthy, but the roots had ceased to grow, and their points turned brown. I then placed the cork in water and covered it over with the glass, in hope that the plants would recover; but they never made any progress; on the contrary, every time I looked at them they appeared to be getting less; the leaves withered and hung down, and in about three weeks the plants were all dead. I believe that I did wrong in taking them out of the water when they were in active growth. Cork appears to be suitable for sowing Orchid seed on, for two reasons—first, it imbibes just sufficient moisture to cause the seed to germinate, and the roots to adhere to it; and secondly, when the plants require to be separated the operation can be done without breaking or injuring them, as the cork can be divided with a sharp knife, and the plants placed on a log or in a pot or basket without harm. *Gardeners' Chronicle.*

DUTCH BULBS.—About the end of August the nurserymen tell us by their advertisements that they "have just received their Dutch bulbs," and, as a matter of course, they are ready to execute our orders. For many years I have been endeavoring to procure a few early hyacinths about the beginning of September, so that I might prepare them to flower early in December, but to no purpose. Whether the Dutch growers or the English sellers are to blame for this I cannot say, but one thing is certain, and that is, if you want hyacinths to pot by the first of September, you must either take your own old bulbs or go to Holland for a set of fresh ones. The Dutch, who understand these roots much better than we do, pot all the hyacinths, which they bloom before Christmas, during the month of August, beginning about the second week of the month. A full account of their practice was given by one of themselves some years since in Loudon's *Gardeners' Magazine*, so that there can be no question at all on the subject. But in England we may whistle for them till after the middle of September. It is true we are set down as rich people, who can well afford to destroy a few paltry roots annually, but that is not the worst of the story. Many gardeners, and their employers too, would not care a fig for the destruction of a few hyacinths, provided they could get them into a good early bloom the first season, say by the first of December. However, as agitation is now at a discount—and long be it so—I suppose it is of little use to grumble; we shall be all right some day or other. Last year I put some hyacinths in fresh moss, rather late in November, to try how much earlier they would flower than others put into soil at the same time and under exactly the same treatment. Those in the moss were in flower ten days before the others, but this might be owing to the sorts, for they were from a mixed sample without names; but, after allowing the benefit of this doubt in their favor, I still think that any of the sorts will come sooner in fresh green moss, and I know they are much easier managed in moss than any other way; and I ought to know something about them, for, not to go farther back than last season, I flowered 600 hyacinths in pots, and nearly as many without pots, but as they were all in the flower-garden, I must not anticipate my own removal hence by saying more about them till I am fairly ousted from my present snug berth, from which, as the truth must soon be known, I am about to be turned out, to write about flower-gardening in the next volume, when all the flowers are nearly gone! However, I am now writing in my old department, and it is high time to pot all the forcing bulbs for the earliest crop, but any time between this and the middle of November will suffice to get in those for late spring use. I think I could give fair lists of the earliest and best kinds, yet I prefer trusting to the nurserymen for them, as they buy them from different growers, and every grower knows his own sorts best. They can al-

ways command a highish price for very fine sorts and for new ones, but their mixed kinds without names are as cheap as possible, and most of them are very good if well treated, but, like many other plants, the cultivation makes an essential difference. Ample directions were given in the first volume about the potting and after management of these bulbs, to which I refer the reader. *Crocuses* are the worst things to force, because, if they are excited too freely, they give nothing but a bunch of leaves. They do best if they are in the borders when taken up about the end of November or later, as by that time their flower-buds are well up, and if they are removed in lumps of earth, and the interstices just filled up when set in the pots, they take no hurt. There is a beautiful little *iris* which flowers naturally early in the spring, and is easily forced; it is called the *Per-*

sian iris. The common double and single *daffodil* from the fields, flower two months earlier with a gentle heat, but they should all be potted in October in some light sandy mould, if you prefer that to moss. One seldom sees the *snowdrop* forced, but it will answer just as well as the *crocus*; and so will the *snowflake*, and, indeed, all the hardy bulbs which flower with us in the spring. Although I use the common expression "forcing," there need be no real forcing at all; and if I say assist them by a gentle heat, that does not convey the meaning much better. If our September weather, on the average of seasons, were to continue through the winter, it is very likely these spring bulbs would flower with us in February; and, by imitating the mild September weather indoors, we call it forcing.—*D. Beaton, in the Cottage Gardener.*

DOMESTIC NOTICES.

BOSTON VENTILATING STOVE.—We are no friends to stoves in general—convenient and popular as we know them to be—since we also know that they render the air impure, besides preventing all the usual wholesome ventilation which, in an open fire place, takes place through the chimney.

We saw in Boston, however, last spring, Dr. CLARKE's patent ventilating stove, which appears to be an exception to most of its fellows, since it provides a constant stream of fresh air, which is warmed in its passage through the air-chamber of the stove,—an immense advantage over the common close stove.

These stoves, of various sizes, have been introduced into the common schools of Boston, where they are greatly approved of, and for the following reasons, according to Mr. BARNARD.*

"1st. They are in fact furnaces, having distinct and capacious air-chambers.

2d. They insure, when properly set, that supply of fresh air which is indispensable to the proper ventilation of any apartment.

3d. The regulating distributor, which is movable or fixed, as may be desired, determines with accuracy the amount and temperature of the admitted air.

4th. The outer cylinder is never hot enough to burn the person or clothing, or to be uncomfortable to those in its immediate vicinity.

5th. They are constructed with the utmost regard to efficiency, durability, compactness and neatness of appearance."

Fig. 96 shows the exterior and interior view of one of these stoves. A hole is cut in the floor, over which the stove is placed, and a box or pipe

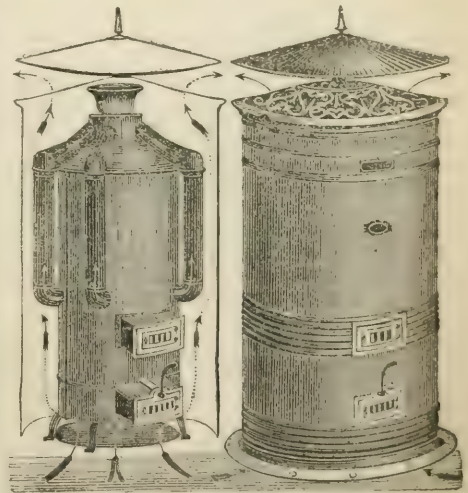


Fig. 96.—Dr. Clarke's Ventilating Stove.

is led from this hole through an aperture in the cellar, so as to supply it constantly with fresh air. At the upper part of the stove is the "regulating distributor," which is in fact a top, which rises and falls on a pivot screw, so as, with a slight turn with the hand, to widen or close the aperture through which the heated air enters the room. The stove itself is lined with fire-brick, so as to give a steady, moderate heat, which can be regulated at pleasure.

This stove is not only excellent for halls and apartments of dwellings, schools, &c., but it

* Barnard's School Architecture.

strikes us that it may be used as a substitute for a furnace in heating green-houses, by the Polmaise mode. It might be placed in a small chamber behind the green-house, or below the level of the floor, or perhaps under the back stage. In the latter case, the doors for putting in coals and taking out ashes should open into a separate little enclosed space, so that the dust made in lighting fires should not get upon the plants.

These stoves are made of various sizes, and may be seen at the warehouses, 51 Blackstone-street, Boston, and 351 Broadway, New-York.

.....
REPORT OF THE CONGRESS OF FRUIT GROWERS.—We learn by a note from Mr. PARSONS, the Secretary of this body, that the American Institute, which kindly offered last October, to print this report, has "decided to defer publishing it, (the report) until the type is set up for the State Agricultural report, in which the proceedings of the Institute are always included."

We regret this decision extremely, since it is not probable that the report will now appear till the latter part of winter. Had this statement been made at the meeting in New York, the report would have been published at once, by voluntary subscription of those present.

We suggest, in order to prevent this difficulty in future, that a small fund be contributed by the various Horticultural Societies, sending delegates to the Pomological Congress, to defray this expense of publishing the reports, &c., that the Congress shall not be dependent upon the action of other bodies for the prompt appearance of its proceedings, which are a matter of interest to a large number of persons in every state in the Union.

.....
GREAT SALE OF GREEN-HOUSE PLANTS.—A small ship load of exotics, chiefly Camellias, from the house of SEIDELL in Saxony, arrived in this country, and was sold at public auction on the 6th and 7th of December last, at 594 Broadway, New York. Great numbers of fruit trees are sent to this country, by foreign nurseries every year, but this is the first large consignment of green-house plants that we have seen offered at public sale. There were about 5000 plants. Probably two-thirds of these were Camellias, from 1 foot to 9 feet high, the tall ones rather lean and *slim* specimens. They brought prices from 25 cents to a couple of dollars each, probably averaging 40 cents—rather a poor speculation we fear, for the Dresden florist. The plants were in good order, but had mostly lost their flower buds—a misfortune for the salesman and the owner, as a Camellia is no Camellia in New York if it does not "promise to" bloom within 60 days. There were some dozens of tolerable Rhododendrons, and some fine lots of hardy Azaleas and Tree Pæonias; which two latter genera went off at fair prices.

.....
BOX EDGING.—I have examined the Horticultu-

rist from the first to the last number, in quest of information how to propagate the different varieties of Box, especially the Edging Box, or *Buxus sempervirens*. I have tried to grow cuttings repeatedly, but with such poor success that I have come to the conclusion there must be a better mode than I am acquainted with, therefore you will oblige me if you can find space in the January Horticulturist for some advice on this subject. Yours, &c., J. N. Dayton, Va.

It is very easy to raise box edgings after the following mode: As early in the spring as the ground is settled, prepare the place where your edging is to be planted, not by digging, but by simply smoothing or levelling it. Next provide some cuttings, which should be from six to eight inches long—the leaves all being stripped off, except a tuft of about two inches at the top. Stretch a line, and after having pressed the soil under it firmly with the foot, next with a spade make a slit along it, deep enough to take in the cuttings. Then plant the cuttings by pushing them down this slit, until two-thirds of the cutting is below ground; afterwards take a small pounder and pound lightly along the whole line of cuttings so as to bring the soil closely in contact with the face and sides of the cuttings, as on this mainly depends their taking root well. They may now be well watered, and if the season is not very dry, will need no farther attention. In very dry soils it is a good practice, in order to ensure the growth of cuttings, to place boards edgewise, like the roof of a house, over the cuttings—leaving them there for six weeks, except when it rains. Ed.

.....
SMOKEHOUSE APPLE.—In your valuable periodical, vol. 3., p. 333, is given a description and partial history of our favorite *Smokehouse* apple, that conveys an erroneous impression, which neither the writer nor the President of the Chester Co. Hort. So. designed.

Mr. ASHERIDGE may have introduced it to notice in his and the president's neighborhood, but Mr. CONNARD, a reputable nurseryman in the vicinity of its origin, (Lancaster Co., Penn., near Millcreek, hence the synonym Millcreek Vandevere,) introduced it to notice almost a half a century since. There are trees in that county with which I am acquainted, that have borne fruit more than thirty years.

Here then is a new variety of apple in cultivation more than a quarter of a century, and known to comparatively few out of its neighborhood; one, too, so much esteemed, that most of its cultivators there, if confined to only *one* or "three," would unhesitatingly select this; because it is an improvement in size, vigor and productiveness, on the old favorite Vandevere, which I perceive has received the sanction of the A. P. C. It will keep until April, and cooks well in September.

How illustrative is this, of the wide uncultivated field lying open for pomological investigation and improvement. Let us then, with renewed effort

exert ourselves for the diffusion of knowledge on this and kindred subjects, until every county in every state shall have a flourishing society Yours, respectfully, J. K. Eshleman. *Glenisle, Chester Co., Penn.*

.....

GRAFTING DIOECIOUS TREES.—Should you think the following method of changing a dioecious to a monoecious plant, new to any of your readers, who may have an isolated persimmon, mulberry, Osage orange, or indeed any tree of that class, they can by inserting buds from another tree of an opposite sexual character, soon have fruit and seed. Some years since, a persimmon tree which had been productive of only staminate flowers, was budded in the usual manner, with buds from a fruit-bearing or pistillate tree of improved variety, and the branches thus produced, have for two successive years yielded an abundance of fruit. *Tyro. Chester Co., Penn.*

.....

EARLY BEARING VINERIES.—Mr. ALLEN, as we all know, does not allow Grape vines to bear at all, till the third year. A writer in vol. 3d, p. 205, of the *Horticulturist*, giving an account of the system adopted at Mr. SPANG'S Grapery, at Pittsburgh, raises a moderate crop of grapes the second year after the vines were planted, and contends that his manner of cropping them can in no way be injurious to their future fertility. I should like your opinion on this subject, and of his system.

In your description of the Clinton Point Vinery, you state that the vines were planted July, 1848; of course the fine fruit which you speak of, was produced on them the *second season*. Allow me to ask, were those vines *cropped* in pots, in the Pittsburgh manner, or how? And if in that manner, was a new cane produced below the bottom of the pot, of sufficient length and strength to make bearing wood for next year. Your opinion on the matter is desired. *A Connecticut Subscriber.*

All practical men agree that it is likely to enfeeble the vine to allow it to bear much fruit till its third year. The mode adopted at Pittsburgh, by our correspondent there, is we think a good one to overcome the difficulty.

The vines in the house at Clinton Point, having made so extraordinary a growth of wood the first season—appearing stronger than most vines do the second year, in consequence of the extra care bestowed on the borders—were allowed to bear a considerable crop this season; and perhaps without serious injury to the vines—though it would have been safer on the whole to have allowed only a bunch or two to a vine till next year. *Ed.*

.....

GREEN-HOUSE PLANTS AND GARDENERS.—Dear Sir—Your correspondent, M. C., of Williamsburgh, N. Y., accuses me in your last number, of having *vilified gardeners*. This assertion is

gratuitous, make it who will, and a misconstruction of my words and meaning. Tis true I have vilified those who *call* themselves gardeners, and for that my professional brethren ought to thank me—those who usurp the name without the slightest claim to it, good or bad. I know there are many good gardeners in this country, but as Mr. MEEHAN remarks, they are the exceptions, not the rule. And who will assert that all those,—or even the half of them—who assume the name of gardeners in this country, really are so, either good, bad or indifferent ones. Yet the fact is unfortunately too true, that they are too often indiscriminately judged, and the value put upon a gardener is very little more than that set upon a common laborer. If my statements on this point be rightly understood, I have no fear of being charged with vilifying my practical brethren, whether native or foreign.

In criticising my observations on summer watering green-house plants, which forsooth, he affects to treat in a *philosophical* way—"Where," he triumphantly asks, "does nature exclude a plant from the wholesome breezes of the day?" Where, I would reply, are the plants we cultivate in our hot-houses, subjected to arid parching winds, and found in those places in a healthy state? Give us the names of such plants, and their natural habitats?

"I do not think there is any great difference between the morning and evening temperature of the soil, in our warm months, whilst that of the water must be decidedly great." So says M. C. Has he found any difference between them, and what are the extent of his observations? I will remark here, to prove how totally unfounded are these assertions of M. C., that a difference of no less than 30 degrees has been found between the temperature of the soil in the morning and evening; but water never changes so much. It is a better retainer both of heat and cold, than earth, and a better conductor too. The difference between the temperature of the soil at these periods, will just be in proportion to its contained moisture, and its capacity of retaining heat will be in the same ratio.

Again he says, "I think reason and science justify the practice of evening watering." Will he give us the reason and science that does so? Is it "simply because the oxygen that the plants absorbed the previous night, was restored to the atmosphere during the day?"

Again he says, "If plants are kept in a high temperature and damp atmosphere, without air"—what can we understand by this? I confess myself unable to conceive the condition which he refers to; perhaps he will enlighten us on this point.

Now, we know that atmospheric air consists of 77 parts of nitrogen, 23 of oxygen, about 4-2500 of carbonic acid, a variable quantity of aqueous vapor, and a trace of ammonia. This mixture, at a temperature of about 55 degrees, constitutes

a healthy atmosphere, and these elements are so adjusted by the laws of chemical combination, as to support the vital system of organized beings in a vigorous condition. Many causes, however, exist to derange the gaseous equivalents, and aridity is one of the greatest, which is invariably produced by a high temperature, in consequence of its increased capacity for carrying off moisture from every thing within its influence that possesses it. The organic elements of the atmosphere, are decomposed by the heat, and carried off by the rarified air, until carbonic acid, &c., remains in excess to act upon the vegetable functions.

It is a well known fact, that green-house plants are more frequently injured by an excess of carbonic acid than an excess of oxygen. This can be proved simply by the presence of a substance having an affinity for it, such as hydrate of lime, which will soon be converted into a carbonate, and will absorb 6 times the quantity of carbonic acid, that vegetable beings covering the same space, in the same period, would have consumed in the process of assimilation. This fact may account for the suffocating smell so frequently felt in hot-houses, and which is only perceptible when the atmosphere is deprived of its proper equivalent of oxygen and aqueous vapor. And hence the necessity of artificial evaporation.

We might view this in another light, by considering the action of these gasses on the vegetable system. We cannot tell the process or the power by which these elements are converted into cellulose and proteine. Chemical affinity appears to be controlled and directed by the principle of vitality. But we know the substances which enter into these combinations, and the result of their action under certain conditions, and when these conditions are unfavourable, the effect ceases to be produced.

Let us take as an example, the cellular tissue, which is formed from the elements of carbonic acid and water, by the separation of oxygen. Twelve equivalents of carbonic acid, with ten equivalents of water. $C. 12. O. 24 + H. 10. O. 10 = C. 12, H. 10, O. 10 + 10 O$; or one equivalent of cellulose and ten of oxygen. In the formation of proteine, the elements of ammonia are added to those of carbonic acid and water; forty equivalents of carbonic acid, with fifteen of water, and five of ammonia=one equivalent of proteine, and eighty-three of oxygen. Proteine, under certain circumstances, absorbs oxygen, and is decomposed into ammonia and humid acid. This last is formed from woody fibre by the loss of the elements of water and carbonic acid.

With these facts before him, I will now ask M. C. by what method of reasoning he supports his hypothesis, that an arid atmosphere is beneficial to the process of assimilation, or upon what foundation he condemns me for keeping the house pretty close, and saturating the atmosphere. His error will appear the more flagrant when we consider the difficulty of saturating the atmosphere,

at high temperatures. It has by calculation been found, that a house containing 4000 cubic feet of air, will by the admission of currents of air heated to 100 degrees, carry off upwards of 20 gallons of water in 24 hours. Our atmosphere at the surface of the earth, is frequently above this in the hot days of summer, and its effects on vegetation are known to every one. Yours, R. B. Leuchars. *New Haven, Ct., Dec. 11, 1849.*

.....
HEALTHY AND DISEASED FOLIAGE.—Dear Sir—Has the matter referred to in the extract from LIEBIG, which I herewith send you, anything to do with leaf-blight in fruit trees, and especially the pear tree? C. Smith. *Newport, N. Y., Dec. 10th, 1849.*

[It no doubt bears decidedly on the subject, and we commend it to practical cultivators:]

“It is by means of moisture that plants receive the necessary alkalies and salts from the soil. In dry summers a phenomena is observed, which when the importance of mineral elements was unknown, could not be explained. The leaves of plants first developed and perfected, and therefore nearer the surface of the soil, shrivel up and become yellow, lose their vitality, and fall off while the plant is in an active state of growth, without any visible cause. The phenomena is not seen in moist years, nor in evergreen plants, and but rarely in plants which have long roots, nor is it seen in perennials in autumn and winter.

“The cause of this premature decay is now obvious. The fully developed leaves, absorb continually, carbonic acid and ammonia from the atmosphere, which are converted into elements of new leaves, buds, and shoots, but this metamorphosis cannot be effected without the aid of the alkalies and other mineral substances. If the soil is moist, the latter are continually supplied to the adequate amount, and the plant retains its lively green color; but if this supply ceases from want of moisture to dissolve the mineral elements, a separation takes place in the plant itself. The mineral constituents of the juice are withdrawn from the leaves already formed, and are used for the formation of the young shoots, and as soon as the seeds are developed, the vitality of the leaves completely ceases. These withered leaves contain only minute traces of soluble salts, while the buds and shoots are very rich in them.”

.....
SPECIAL MANURES.—I have been much pleased as well as profited by the several articles on “*Special Manures*,” published in the Horticulturist, and I herewith send you a statement of the manner in which I treated a tree in my own garden, and its results, though whether it is a “*case in point*” I leave you to judge.

In the spring of 1845, I set two grafts of the White Doyenne on the common quince. They were transplanted the succeeding fall. During the summer of 1848 both trees blossomed, and one of them set one pear, but after it had grown about

half the usual size, it commenced cracking, and ceased growing. I showed the pear to a person who had seen those that cracked at the east, and he said it was affected the same as those. My first impulse was to dig up the trees, believing that the scion came from a diseased stock and therefore would prove worthless. But on reflection I concluded to let them stand, and try the effect of "Special Manures." In the fall I prepared a compost of muck and ashes, as recommended by you, and applied about half a bushel to each tree, which was slightly dug in. Last spring, I applied about four quarts of burned bones to each tree, and formed a mound about each tree with compost, about six inches high and three feet across, so as to cover up the junction of the graft with the stock. On examining the trees I found at the junction of almost every limb with the body of the tree a crack in the bark, extending from $\frac{1}{4}$ to $\frac{1}{2}$ an inch up the limb, and also about the same distance up the body. Around these cracks the bark was dead to a greater or less extent; in several places it extended almost around the body of the tree, and in one case entirely around. I cut off the tree at this last place, which was some 18 inches from the ground. I cut out all the dead bark and covered the wounds with the shellac preparation, recommended by you. The past summer each tree has borne six as perfect pears as any one could ask for, and the trees have made a thrifty and healthy growth. The wounds made by cutting out the dead bark have grown over, and there are no signs of the bark cracking again. The trees were set in a soil of heavy clay, which had been taken, about eighteen months previous, from several feet below the surface, and had been manured and cultivated the summer previous to the trees being set. What, in your opinion, was the cause of the pears cracking last year and being perfect this? And what was the cause of the bark cracking? Yours, respectfully, *M. L. B. Lockport, Dec. 17th, 1849.*

Our opinion is that the bark and fruit cracked from unsuitable soil, or unhealthy constitution in the tree or from both. Special manure would of course be the main remedy for such a diseased condition. Ed.

.....

BUILDING VINERIES.—Your critic in his critique for this month, asks of you cost of structure, and other information, of Mr. VAN RENSSELAER's vinery, at Clinton Point. I shall be able to tell you, when spring opens sufficiently for out-of-door work, exactly what it costs *here*, to put up such a vinery as Mr. VAN RENSSELAER's, on a smaller scale—that is forty two feet in length, with height and breadth as his. Meanwhile, I can tell you, that owing to your representations of the peculiar advantages of the vinery at Clinton Point, I sent a carpenter there to examine it; and his report, when he brought the plan of it to me on his return, was that he could build a vinery at one third less cost, in consequence of what he had

seen there. I may mention that the person I sent understands his business thoroughly, and had just completed a vinery on the ordinary plan, at a country seat in this neighbourhood.

The difference between, say four hundred dollars and six hundred dollars, is something. And the greater pleasure of having a vinery, or anything else, to effect a certain purpose, at a reasonable cost, instead of an extravagant, is something more. So that I think the country loving community is under obligation to Mr. VAN RENSSELAER for having brought practical good taste to bear on this matter. *A Subscriber. Philadelphia, Dec. 17th, 1849.*

ANSWERS TO CORRESPONDENTS.

CARNATIONS.—*R. Early*, (Lynchburgh, Va.) You will find a very valuable practical article on this plant in the first volume of this journal, p. 73.

SEEDLINGS.—*D. B. Williams*, (Mendham, N. J.) You may undoubtedly take a crop of roots from between the drills of seedlings, but probably at the injury of the latter, unless your soil is very deep and rich. Instead of planting a row of corn between the rows of cuttings or slips, you had better cover the ground with litter, or some sort of refuse, to preserve its moisture above the slips; corn roots do more harm by exhausting the moisture in the soil, than good by shading the cuttings. Do you mean evergreen seeds or plants? A good manure for them would be *leached* ashes and fine chip manure—one third of the former to two thirds of the latter.

BURYING ROOTS.—*Rev. J. R. K.* (Warren, Ct.) You inquire if maple trees of 20 years growth, which have had the ground raised on the north side, and 2 feet south of the trunks on the south side, will be seriously injured by it? We think not, as there is a sufficient portion of the roots in the natural position on the south side to enable the tree to go on till the roots on the north side send up fibers in the new soil under which they are buried. We have seen elms buried 3 feet deep without injury, by first piling stones over the roots, and then covering the soil over the stones.

PRUNING LARGE TREES.—*J. H. E.* (Chester Co., Pa.) We should prefer to wait till the cold weather is quite past—say with you the 1st of March, before pruning the large limbs of pears or apples. The engrafted branches may be headed in at that time. If any one is compelled to prune in mid-winter—at the north—then he should always use the shellac solution, brushing over the wound as soon as made, otherwise a rotten spot will be formed and the wound will not heal readily. We know nothing definite, regarding the two fruits you refer to, beyond what we have published.

TENDER EVERGREENS.—*Enquirer*, (Canandaigua, N. Y.) The varieties of *Rhododendron Ponticum* will not stand your winters, unless protect-

ed by turning a box over them, or enclosing them with a rough board frame to keep the sun and the sudden changes of weather from affecting them. Portugal laurel requires the same treatment here.

BOOKS.—*W. W.* (Baltimore.) Most of what is new, in the late edition of *Mr. Thomas' Fruit Culturist*, has been *borrowed* from this Journal. A new edition of Lindley's *Horticulture* will be issued in the spring. Paxton's *Botanical Dictionary* is the work you need. It may be had at Wiley's, 161 Broadway, New York.

PLANTS IN POTS.—*A Lady Subscriber*, (Gene-seo.) Your camellia does not bloom because it did not set any flower buds last spring when it made its growth for the season, and it probably did not form buds then, from want of proper soil or water at that time. It is precisely during the the two or three weeks *while it is growing* that it requires especial care. At that time plenty of water, air, and sun, and twice a week some guano water, will give you an abundance of flowers next year.

APPLES.—*M. P. S.* (New Haven.) The apple

you sent us, is Peck's Pleasant, the finest apple in New England when in perfection. It varies much out of your state, and we have received some lately from Rochester, N. Y., which were so comparatively flavorless, that we scarcely recognised them.

GRAFTS.—*A Nurseryman*, (St. Louis.) Grafts may be cut now as well as later. Bury them half their length in some soil in the cellar. Root grafting is carried on all winter by many nurserymen, and the stocks laid away in earth—in root cellars—till planting time comes, when they are all ready for going into the rows.

APRICOTS.—*James Thompson*, (New-York.) This tree is very liable to die suddenly, and we think chiefly from the injurious effects of sudden freezing and thawing of the bark at the surface of the ground. Try straw sheathing round the limbs.

INSECTS.—*J. L. Harris*, (Milledgeville, Geo.) It will require a good deal of time and labor to prepare such an article with illustrations as you suggest. Perhaps we may be able to present such an one in the course of two or three months.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society was held on Tuesday evening, Dec. 18, 1849. The President in the chair. The display was very fine for the season, and the meeting well attended.

The following premiums were awarded by the committee on plants and flowers: For the best three hot-house plants, named varieties, to Ben Daniels, gardener to C. Cope; for the second best ditto, to Robert Scott, foreman to Robert Buist. For the best three green-house plants, named varieties, to Ben Daniels; for the second best ditto, to Robert Scott. For the best collection of plants in pots, to James Bisset, gardener to James Dundas; for the second best ditto, to Ben Daniels; for the third best ditto, to Maurice Finn, gardener to John Lambert. For the best bouquet or design of cut flowers, to Ben Daniels; for the second best ditto, to Patrick Burke, gardener to J. Longstreth. For the best basket of cut flowers, to Ben Daniels; for the second best, to Wm. Finn. For two small and neat baskets of cut flowers, a special premium to Joseph Cook.

By the committee on fruits: For the best half peck apples, Roman stem, to John Perkins, Morristown, N. J.; for the second best ditto, Kaighn's Spitzbergen, to the same. For the best seedling pear, the Chaucellor, exhibited during the present year, to —, a premium of five dollars. For the best seedling peach, the Eliza, exhibited during the present year, to Gerhard Schmitz, a premium of five dollars.

By the committee on vegetables: For the best and second best displays of vegetables, by Commercial Gardens, to Anthony Felten; for the best display by amateurs, to Ben Daniels, gardener to C. Cope; for the second best ditto, to Maurice Finn, gardener to John Lambert; for the third best ditto, to Wm. Johns. And for a fine display of cauliflowers, a special premium to Anthony Felten.

OBJECTS SHOWN.—*Plants.*—By James Bisset, gardener to James Dundas.—*Dendrobium moniliforme*, *Gesnera zebrina*, *Goodyera discolor* (in bloom since September exhibition), *Azalea indica alba*, *Halorhannus elegans*, *Abutilon venosum*, *Epiphyllum truncatum*, *Daphne odorata*, *Euphorbia jacquiniiflora*, and numerous cut flowers of the *Bignonia venusta*, suspended from an arch.

By Robert Scott, foreman to Robert Buist.—*Halorhannus elegans*, *Manettia bicolor*, *Gesnera oblongata*, *Correa multiflora rubra*, *Erica Willmoriana*, *Epacris impressa*, *E. nivalis*, *E. copae*, *E. coccinea*.

By Ben Daniels, gardener to C. Cope.—*Gesnera jerooldiana*, (*new*) *Gongora maculata*, *G. major*, *G. picta*, *Oncidium papilio*, *Brassavola Perrinii*, *Alphelandra Ghiesbreghtii*, *Poinsettia pulcherrima*, *Euphorbia fulgens*, *Rhipsalis swartziana*, *Manettia bicolor*, *Gesnera zebrina*, *Columna grandiflora*, *Cypripedium venustum*, *C. insignia*, *Gloxinia Teucherii*, *Cineraria* (seedling,) *Camellia*—var., *Saco magniflora*, *Gilesii*, &c.

By Maurice Finn, gardener to J. Lambert,—a beautiful collection of plants in pots.

Bouquets.—by Ben Daniels and Patrick Burke. *Floral baskets.*—by Ben Daniels, Maurice Finn and Joseph Cook.

Fruits.—By John Perkins. Apples—Roman Stem and Kaighn's Spitzbergen. By Isaac B. Baxter. Pears—Columbia (from graft of last year,) and Passe Colmar. By Ben Daniels. Fruit of the *Cereus repandus* and *opuntia vulgaris*, (edible.)

Vegetables.—By Anthony Felten, a fine display.

By Ben Daniels,—a fine collection, among which were asparagus, tomatoes, &c. &c.

By Morris Finn and Wm. Johns,—good displays.

EDWIN MEREDITH, Sec'y pro tem.

Horticulturist

JOURNAL OF RURAL ART AND RURAL TASTE.

VOL. IV.

FEBRUARY, 1850.

No. 8.

What an extraordinary age is this for conventions! Now-a-days, if people only imagine something is the matter, they directly hold a convention, and resolve that the world shall be amended. We should not be surprised to hear next, of a convention of crows, resolving that the wicked practice of setting scare-crows in cornfields be henceforth abolished.

Sitting in our easy chair a few evenings since, we were quite surprised to see the door of our library open, and a small boy—dressed in dark green, who had something of the air of a locust or a grasshopper—walk in with a note.

It was an invitation to attend a mass meeting of all the fruits of America, assembled to discuss the propriety of *changing their names*. Horrified at the revolutionary spirit, we seized our hat directly, and bade the messenger lead the way.

He lost no time in conducting us at once to a large building, where we entered a lofty hall, whose dome, ribbed like a melon, was lighted by a gigantic chandelier, in the form of a Christmas tree, the lights of which gleamed through golden and emerald drops of all manner of crystal fruits.

In the hall itself were assembled all our familiar acquaintances, and many that were scarcely known to us by sight. We mean

our acquaintances—the fruits. On the right of the speaker sat the Pears; rather a tall, aristocratic set of gentlemen and ladies,—many of them foreigners, and most of them of French origin. One could see by the gossiping and low conversation going on in knots among them, that they were full of little schemes of finesse. On the left, sat the numerous Apple family, with honest, ruddy faces; and whether Yankee, English or German, evidently all of the Teutonic race. They had a resolute, determined air, as if they had business of importance on hand. Directly behind the Pears sat the Peaches, mostly ladies, with such soft complexions and finely turned figures, as it did one's eyes good to contemplate; or youths, with the soft down of early manhood on their chins. Apricots and Nectarines were mingled among them, full of sweet smiles, and a honied expression about their mouths. The Plums were there, too, dressed in purple and gold,—many of them in velvet coats, with a fine downy bloom upon them; and near them were the Cherries, an arrant, coquettish set of lasses and lads,—the light in their eyes as bright as rubies. The Strawberries sat on low stools in the aisles, overhung and backed by the Grapes—tall fellows, twisting their moustaches (tendrils,)

and leaning about idly, as if they took but little interest in the proceedings. The only sour faces in the crowd were those of a knot of Morello Cherries and Dutch Currants, who took every occasion to hiss any speaker not in favor.

We said this was a convention of fruits; but we ought also to add that the fruits looked extremely like human beings. On remarking this to our guide, he quietly said,—“of course, you know you see them now in their spiritual forms. If you half close your eyes, you will find you recognize them all in their every-day, familiar shapes.” And so indeed we did, and were shaking hands warmly with our old neighbors and friends,—the Beurrés and Pippins and Pearmains, when we were interrupted by the speaker, calling the meeting to order.

The Speaker (on giving him the *blink*,) we found to be a fine large specimen of the *Boston Russet*, with a dignified expression, and a certain bland air of one accustomed to preside. He returned thanks very handsomely to the convention for the honor of the chair; assuring them that having been bred in the land of steady habits, he would do all in his power to maintain order and expedite the business of the convention. We noticed, as he sat down, that there were vice-presidents from every state,—many of them old and well known fruits; and that the *Le Clerc Pear* and an *Honest John Peach* were the secretaries; and a pair of very astringent looking fellows—one a *Crab Apple*, and the other a *Choke Pear*—were sergeants-at-arms, or door-keepers. Their duties seemed to be chiefly that of preventing some brambles from clambering over the walls and looking in the windows, and a knot of saucy looking blackamoors, whom we discovered to be only *Black Currants*, from crowding up the lobbies; the

latter in particular, being in bad odour with many of the members.

There was a little stir on the left, and a solid, substantial, well-to-do personage rose, who we recognised immediately as the *Newtown Pippin*. He had the air of a man about sixty; but there was a look of sound health about him which made you feel sure of his hundreth year.

The *Newtown Pippin* said it was needless for him to remark that this was no common meeting. The members were all aware that no ordinary motives had called together this great convention of fruits. He was proud and happy to welcome so many natives and naturalized citizens,—all bearing evidence of having taken kindly to the soil of this great and happy country. Every one present knows, the world begins to know, he remarked, that North America is the greatest of fruit-growing countries, (hear, hear,) that the United States was fast becoming the favored land of Pomona, who, indeed, was always rather republican in her taste, and hated, above all things, the fashion in aristocratic countries of tying her up to walls, and confining her under glass. Hé preferred the open air, and the free breath of orchards.

But, he said, it was necessary to come to business. This convention had met to discuss the propriety and necessity of passing an alien law, by which all foreigners, on settling in this country, should be obliged to drop their foreign names, or, rather, have them translated into plain English. The cultivators of fruit were, take them altogether, a body of plain, honest countrymen, who, however they might relish foreign fruits, did not get on well with foreign names. They found them to stick in their throats to such a degree that they could not make good bargains over such gibberish. The question to be brought before

this meeting, therefore, was nothing more nor less than whether things should be called by names that sounded real, or names that had a foreign, fictitious and romantic air; whether an honest man might be called in plain English a "good Christian," or whether he should forever be doomed to be misrepresented and misunderstood as a "*Bon Chretien*." For his own part, he said, he thought it was time to assert our nationality; and while he was the last man to say or do anything to prevent foreigners from settling among us, he did think that they should have the courtesy to drop foreign airs and come down to plain English, or plain Yankee comprehension. He was himself a "native American," and he gloried in it. He considered himself, though a plain republican, as good as any foreigners, however high sounding their titles; and he believed that if fruits would be more careful about their intrinsic flavor, and study, as he did, how to maintain their credit perfect and unimpaired for the longest possible period, it would in the end be found more to their advantage than this stickling for foreign titles. His ancestors, he said, were born in the state of New-York; and he was himself raised in a great and well known orchard on the Hudson. (Hear, hear.) If any gentleman present wished to know the value of a plain American name, he would be glad to show him, in dollars and cents, the income of that orchard. He was in greater favor in Covent Garden market than any English or continental fruit; and such sums had been realized from the sales of that orchard, that it was seriously proposed in the English parliament to impose a duty on Newtown Pippins, to pay off the national debt. (*Great applause, and a hiss from a string of Currants.*) He concluded, by trusting the chairman would pardon this allusion to his own affairs, which he only

gave to show that a Pippin, in plain English, was worth as much in the market, and the world's estimation, as the finest French title that was ever lisped in the Faubourg St. Germain. He moved that all foreign names of fruits be done into plain English.

This speech produced a great commotion among the Pears on the right, who had evidently not expected such a straight forward way of treating the matter. For a moment, all was confusion. That little fellow, the *Petit Muscat*,—always the first on the carpet,—ran hither and thither, gathering little clusters about him. The *Sans-peau*, or Skinless, was evidently touched to the quick. The *Pomme glacé* gave all the Pippins a freezing look; and the *Fondante d'Automne*, a very tender creature, was so overcome that she melted into tears at such a monstrous proposition. The *Belle de Bruxelles* muttered that she had seen Newtown Pippins that were false-hearted; and the *Poire Episcopale* declared that the man who could utter such sentiments was a radical, and dangerous to the peace of established institutions.

Just as we were wondering who would rise on the opposition, a tall, well proportioned Pear got up, with a pleasant Flemish aspect. It was *Van Mons' Léon le Clerc*. He said he was sorry to see this violent feeling manifested against foreign names; and being a foreigner, and having had a pretty long acquaintance with foreign Pears abroad, he felt called upon to say something in their defence. He thought the remarks of the gentleman who had preceded him, both uncourteous to foreigners and unreasonable. He could not understand why people should not be allowed to retain their names, at least such as had any worth retaining, even if they did become rooted to the soil of this country. Especially when those names were in the most polite lan-

guage in the world,—a language which every educated person was bound to understand,—a language spoken by DUHAMEL and VAN MONS, the greatest of pomologists,—a language more universal than the English,—spoken, in short, in all civilized countries, and especially spoken by fine ladies, over a dish of fine pears at the dessert. (*Great applause.*)

Here a stranger to us, the *Bézi des Vétérans*, rose and said:—Sare, I have de honor to just arrive in dis country. I am very much *chagriné* at dis proposition to take away my name. I have run away from de revolutions, what take away my property, and here I hope to find *la liberté—la paix*; and I only find *les voleurs*—robbers—vat vish to take away my name. Yes-sare; and what they will call me den?—"wild old mans," or "old sojair?" Bah! Me no like to be so, Moi, who belong to de *grand bataillon—le garde Napoléon!*

Here a pleasant and amiable lady rose, evidently a little embarrassed. It was *Louise Bonne de Jersey*. She said she loved America. True, she had found the climate not to agree with her at first, and her children seemed to pine away; but since she had taken that hardy creature, the Quince, for a partner, they had done wonderfully well. For her own part, she had no objection whatever to being called "Good Louise," or even "Dear Louisa," if her American friends and cou-ins liked it better. All she asked was to be allowed to live in the closest intimacy with the Quince, and not to have any *cutting* remarks made at her roots. She could not bear that.

A very superb and stately lady next rose, giving a shake to her broad skirts of yellow satin, and looking about her with the air of a Duchess. In fact, it was the *Duchesse d'Angoulême*; and though she was a little high shouldered, and her features some-

what irregular, she had still a very noble air. She remarked, in a simple and dignified voice, that she had been many years in this country, and had become very partial to the people and institutions. Naturally, she had strong attachments to old names and associations, especially where, as in her case, they were names that were names. But, she added, it was impossible to live in America without mixing with the people; and it was impossible to mix with the people, if one's very name could not be understood. It was very distressing to her feelings to find, as she did, that French was not taught in the common schools; and she hoped if an agricultural college was established, the scholars would be taught that language which was synonymous with everything elegant and refined. She trusted, in conclusion, that though names should be anglicised, the dignity would be preserved. A Duchess, in name at least, she must always be; but if republicans preferred to call her simply the Duchess of Angouleme, she saw nothing amiss in it. Especially,—she remarked, with a slight toss of the head,—especially, since she had heard an ignorant man, at the country-seat where she resided, call her repeatedly "Dutchy-Dan goes-lame;" and another, who visits him, speak of her, as "Dutch Dangle-um," forgetting that she abhorred Holland.

She was followed by the *Red Streak Apple*, from New-Jersey, a very blunt, sturdy fellow, who spoke his mind plainly. He said he liked the good sense of the lady who had just spoken; she was a woman he should have no objection to call a Duchess himself. About this matter he had but few words to say. Some folks were all talk and no *cider*; that, thank God! was not his fashion. What he had to say he said; and that was, that he was sick of

this tomfoolery about foreign names. A name either meant something or it did not. Anybody who looked at him could see that he was a Red-Streak, and that was all that his father expected when he named him. Anybody could believe that the last speaker was a Duchess. But what, he should like to know, did the man mean who named a Peach "*Sanguinole a chair adherent*!" He should like to meet that chap. It would be a regular raw-head and bloody-bones piece of business for him. And "*Fondante du Bois*;" he supposed that was the fond aunt of some b'hoys,—it might be the "old boy," for all he knew. And "*Beurré Gris d'Hiver nouveau*." Could anything be more ridiculous! He should like to know how those clever people, the pomologists, would translate that? They told him, "new gray winter butter," (*laughter*;) and what sort of winter butter, pray, was that? "*Reine de Pays bas*;" what this meant, he did not exactly know,—something, he supposed, about "rainy weather pays bad," which would not go down, he could tell the gentlemen, in our dry climate. There was no end to this stuff, he said. He seconded the Pippin. Clear it all away; boil it down to a little pure, plain English essence, if there was any substance in it; if not, throw the lingo to the dogs. He hoped the Pears would excuse him. He meant no offence to them, personally. But he didn't like their names, and he told them so to their faces.

The *Minister Apple* here observed that he had some moral scruples about changing the names of all the fruits. It might have a bad effect on the hearts and minds of the community. He begged leave to present to the speaker's consideration such names, for example, as the "*Ah mon Dieu*," and the "*Cuisse Madame*" Pears! There were many who grew those Pears, and, like our

first parents, did not *know* the real nature of the fruits in the garden. Happy ignorance! Translate them, and they would, he feared, become fruits of the tree of knowledge.

A tall *Mazzard Cherry* hereupon remarked, (wiping his spectacles,) that a very easy way of avoiding the danger which his worthy friend, who had just sat down, had pointed out, would be to reject both the Pears and the names, when they were no better than the last. He was a warm friend to progress in horticulture, and he was fully of the opinion of the *Jersey Red Streak*, that things should not come among us, plain republicans, in disguise. How, indeed, did we know that these Pears of France were not sent out here under these queer names for the very purpose of corrupting our morals; or, at least, imposing on us in some way. He had been settled in a garden for some years, among a pleasant society of trees, when last spring the owner introduced a new Pear from abroad, under the fine name of "*Chat brûlé*." For some time the thing put on airs, and talked about its estate and chateau having been destroyed by incendiaries; and it showed a petition for charity. What was his amazement, one day, when the daughter of the proprietor came in the garden, to see the contempt with which she turned away from this Pear, and exclaimed, "what could have induced pa to have brought this 'singed cat' here?" *Chat brûlé*, indeed! He bent over the creature and switched her finely the first stormy day. He was for translating all good fruits and damning all bad ones: (At hearing this, certain second rate *Strawberries* commenced *running*.)

The convention grew very excited as the *Mazzard* sat down. The *Muscat Noir Grape* looked black in the face; the *Crown Bob Gooseberry* threw up his hat; and the *Blood*

Peach, who had been flirting with a very worthless fellow—the French soft-shelled Almond—turned quite crimson all over. Cries of “order, order,” were heard from all sides; and it was only restored when a little, plump, Dolly-Varden looking young girl, who was a great favorite in good society, sprang upon a chair in order to be seen and heard.

This was the Lady Apple. Her eyes sparkled, and set off her brilliant complexion, which was quite dazzlingly fair. It was easy to see that she was a sort of spoiled child among the fruits.

MR. SPEAKER, she said in a very sweet voice, you will indulge me, I am sure, with a very little speech—my maiden speech. I should not have ventured here, but I positively thought it was to have been a private party, and not one of these odious mass meetings. I am accustomed to the society of well bred people, and know something of the polite languages of both hemispheres. Indeed, my ancestors still live in France, though I am myself a real American. What I have to tell is only a little of my own experience; which is, that one may, if one has good looks, and is a person of taste, have her name changed without suffering the least loss of character or reputation. Indeed, I am convinced it may often add to her circle of admirers, by making her better understood and appreciated. I am almost ashamed, ladies and gentlemen, to refer to my own life, illustrative of this remark. (*Cheers.*) [Here she blushed, and looked around her very sweetly.] At home, there in *la belle France*, I belong to the old and very respectable family of the AP’s. There was not much in that; but mostly shut up in an old dingy chateau,—no society—no evening parties—no excitement. I assure you it was very dull. In this country, where I am known everywhere as the

“Lady Apple,” I am invited everywhere among the most fashionable people. Yes, MR. SPEAKER, this country has charmingly been called the paradise of ladies; and I would advise all deserving and modest girls in *jeune France*, to come over to younger America, and *change their names* as quickly as they can. (*Hear, hear*, especially from the *Jonathan Apple.*) If they will take *my* advice, they will put off all foolish pride and fine names that mean nothing, and try to speak plain English, and dress in the latest republican style; (especially,—she added, *aside*, turning to the foreign Pears,—especially as the fashions always come from Paris.)

This lively little sally evidently made a favorable impression. The Bartlett Pear said he was nobody in France as the *Poire Guillaume*, while here, where the climate agreed so much better with his constitution, he was a favorite with high and low. The *Duchesse d’Orleans* thought it best for ladies like herself, who did not expect to associate with any but the educated class, to retain their foreign names. The *Jargonell* Pear said he had heard a great deal of talk, which to him was a mere babel of tongues. His name was the same on both sides of the water. The Flemish Beauty said, on the other hand, that she was a great deal more loved in this country now, than when she first came here as the *Belle de Flandres*. The *Bellefleur* Apple observed, she had tried to maintain her foreign etymology in this country without success, and meant to be henceforth plain Bellflower; and the *Surprise* Apple turned red, as he attempted to say something (the Morello trying to hiss him down;) but he was only able to stammer out his astonishment that any one could doubt the policy of so wise a movement.

There was here a tumult among some

of the foreign Grapes, accustomed to live in glass houses, who had been caught by the Crab Apples *stoning* the windows, and sticking their spurs (they were short pruned vines,) into some patient looking old *Horse Apples* from the western states. A free-soiler, who was known as the *Northern Spy*, was about to sow the seeds of the apple of discord in the convention, by bringing forward an amendment, that no foreign fruits, and especially none which were not

"on their own bottoms," should be allowed to settle in any of the new states or territories, when that old favorite, the Virgaliou Pear, made a soothing speech, in his usual melting and *buttery* manner, which brought all the meeting to a feeling of unanimity again; when they resolved to postpone further action, but to prepare a memorial on the subject, to be laid before the Congress of Fruit-growers, at its meeting next fall in Cincinnati.

PRESERVING FRUITS, FRESH FOR WINTER USE.

BY W., BALTIMORE.

[We commend the following to the memorandum books of those of our readers who aim at the choicest results of domestic economy and housekeeping. We have tasted peaches in mid-winter, preserved at Baltimore, after this method, which, cut up and served with cream at the dessert, were almost undistinguishable in appearance and freshness of taste from August rarities fresh from the tree. We are assured the same results are obtained with strawberries, apricots, plums, &c., which are now extensively prepared in this way for market. As the process is a very simple one, we do not see why this mode of preserving the fruit, with its natural flavor, should not largely supersede the cloying preserves, made with sugar. Ed.]

DEAR SIR—In answer to your queries, regarding the mode of preserving fruits practiced in this city, I send you the following, as that after which the specimens you tasted were prepared:

Send to your tinsmith and get a sufficient number of tin canisters, very carefully and tightly made. They should be of uniform size; and the shape preferred here is

seven inches high by five inches in diameter—uniform cylinders.

Select the fairest fruit,—peaches, strawberries, or what you please. It should be *just* ripe, but not past the mature stage. Fill the canisters, place the tin lids on their tops, and solder them down very carefully. Only a small hole, of the size of a pin, should be left for the escape of air.

The next point is to drive the air out of the canisters of fruit, to prevent its decay. In order to do this, take a broad boiler-pan, (with a flat bottom,) place the canisters in it, and fill it with boiling water within about three-fourths of an inch of the tops of the canisters. The boiler being over a *gentle* fire, the water in it should now be made to boil. This will drive the air in each canister through the small hole left in the top, as soon as the temperature approaches 200°; and in order to know precisely when it is all expelled, you must drop a few drops of water upon this hole. When the bubbles of air cease rising through these drops of water, the air is all expelled, and then you may pass a dry cloth over the hole and let a drop of solder

fall upon it. This seals the canister up, hermetically, so that the fruit will remain unchanged for a couple of years, or longer. The immersion of the cans in the boiling water does not impart the slightest taste of their having been cooked to the fruit.

The canisters of fruit should be left in a cool place. When wanted for use, unsolder the tops with a hot iron and the fresh fruit is ready,—having been perfectly preserved without the aid of sugar or brandy.

Yours,

W.

CRITIQUE ON THE DECEMBER HORTICULTURIST.

BY JEFFREYS, WESTERN NEW-YORK.

Your Leader—Agricultural Schools.—If the farmers of our country *do* wake up to their own interests, as late appearances indicate, they may at least succeed in putting themselves, as a soldier would say, *in position*. Of all professions known in our land, the farmer is the only one who steadily opposes his own interest in improvement. The lawyer, the doctor, the merchant, the statesman, the politician, the mechanic, the artisan,—in fact, the disciple of every profession *but* agriculture, is actively awake to his own improvement in all that appertains to his craft. But the farmer's knowledge "comes by nature," and he has no need of education in his own profession, if his words and acts are to be believed for the *few* centuries in which he has existed. And even now, when the other professions are eager to help him into a school for his own special benefit, the chances are equal that he will, donkey-like, let fly his heels in its face, instead of making an effort to effect it.

I don't mean to be disrespectful, Mr. Editor; but when I hear farmers—men who are indebted to the soil for all that they are, and look to it for all they expect, and ought to know the value of practical agricultural education—voting in legislature against every proposition for their own good in that line, for fear it will make "book farmers" of their boys, and yet sup-

porting bank charters in shoals, railroads by the score, and all sorts of corporate privileges as a matter of course, I do think that *we* farmers—yes, I claim to be part of one myself—are a *very* consistent body of gentlemen. Thanks to our new Constitution, *special* bank, insurance, turnpike, and manufacturing corporations are at an end; and everybody can have them by *general* law that want them; and when our railroads shall be created by general law, too, as they soon will be, I trust that such of those among our farmers who *do* wish to get a very incompetent (as it will be,) share of state consideration for their just benefit, may be heard.

Governor FISH deserves the thanks of every farmer in the state for his liberal recommendation of the endowment of an agricultural school; and I trust that the efficient and intelligent board of commissioners which he has appointed to draft a plan, will present such an one to the legislature that they will at once adopt it. For fifteen years past the state agricultural society have recommended it; and last winter, for the first time, have they been able to bring the subject to a notice in the executive message. Your remarks on this subject are well timed, and to the point. It is true that a school, if one be now established in this state, is to be an experiment in the

United States,—the first to be created by law, and endowed at the expense of the treasury. It will require caution in its plans, and in the execution of its duties, until the right method of instruction be understood; and then, if successful agricultural schools are to become the chosen institutions for the mass of our young men, for the reason that, if not absolutely *necessary* to all, the pursuit of agriculture is so congenial to the feelings, tastes, and leisure of man, that it will be regarded as an *accomplishment* in the education of one's youth, by our most intelligent people out of the great commercial cities, and by very many within them. Success to the effort; and meantime, I shall look with anxiety for the report of the commissioners, who, I trust, have well discharged their duty.

The Evergreen Ivy.—MR. SMITH, you are a man of true taste. I won't say more, just now. How many old rookeries of houses, nestled under a high rock, an ancient tree, with a sparkling brook hard by, have I seen, with the old ivy climbing up their dilapidated sides, and spreading over their mossy roofs, that looked infinitely more home-ish than the starched up, martin-box affairs, in such dapper colours, on the road side just beyond them. Ivys are beautiful always; and in every spot requiring seclusion, no screen so cheap and so becoming can be substituted. The American ivy is hardly so rich in its drapery and foliage as the English; but sufficiently so to form an attractive object in almost every ground; and it is only to be wished that our country people better understood its worth, not only in ornamenting their own dwellings, but many otherwise unsightly, yet necessary, structures, which stare out in their naked deformity in a thousand places,—thus giving them an appearance at once graceful and appropriate.

A Chapter on Birds—and by a new "Ornithologist." Welcome, my good friend, into the kind brotherhood of those who love God's creatures. I am sorry, however, you don't like the wrens. Of all things, I like them for their very spider eating. The spiders! Bless me, my good sir, they are the bane, not exactly of my own, but all summer they are of my good wife's existence. Why, you know nothing about it. Every other day, from April to November, you see her with handkerchief, tied turban fashion round her head, out in the broad piazza, with Tom and his brush, and Moll with her stick, and the dear soul with the tongs to pinch them,—all clamorous and busy for an hour in poking out, and brushing off the "filthy spiders." And such a time!—and over the windows, and all about. Why, I wish we had a thousand wrens to catch the vile torments. Blue birds, robins, sparrows,—all may go, if the wrens will but catch the spiders. No, my good sir, let us have them all. There is room enough for wrens, as well as the others. And they look so smart, with their tails stuck up so brisk, and their funny little eyes, so sharp, peering into every crack and crevice for a bug, a fly, or a spider. Let the large birds have the grubs and the beetles, of which there are enough to serve them a turn; and if you love the drone of the dear little humming-bird, plant a scarlet monthly honeysuckle by the columns of your porch, or library, or bed-room window, and the tiny things will be all day boring into the long cups of the flowers, and perchance fly into the windows; and in its fright to get out again, one will dash against the glass, where, in order to release it, you will catch it as you would a butterfly; and while holding it in your hand, and gazing at its delicious plumage, will feel its tiny heart throb against your fingers in its ago-

ny, till you let it go into the broad sunshine of its enjoyment, soon to return and buzz away its happy hours as before.

How many bright and pleasant hours may be spent in ministering to the wants and the pleasures of the birds, thus kindly attracted about one's dwelling and grounds; and what lessons of love and affection may be taught the children in caring for their welfare, and watching their habits,—all incidents of rural life, that serve to make up its variety and pleasure. But I grow garrulous. Write again, my dear sir. You remind me of WHITE, of Selborne, who wrote some years ago one of the pleasantest books I ever read, on the Natural History of his neighborhood.

A Jog in the Fruit Garden.—I cannot say a word to assist our "Digger." He so effectually finishes up his subject, whatever it be, that, like the clerk in the parish church, I can only respond "Amen" to his conclusions. I may possibly catch him napping by-and-by, when I promise him he shall hear from me in as hearty earnest as he lectures the neophytes and the slovens in the garden or the orchard.

Design for a Rural Villa—with a view in the frontispiece.—Here, Mr. Downing, you have it—a house that suits me, in *outside* appearance, almost exactly. It has a good hearty look of hospitality and substance about it, that seems to tell of itself what it was built for,—like a stout, honest, country gentleman, with his broad hat and portly bearing, who breathes free and deep, as he walks out upon his domain; not a starched up, affected, meager faced, pedantic body, who appears in shivering doubt whether the country, after all, is really the place for "genteel society."

I must talk a little about this house; and while I extol its excellencies, you must excuse me if I suggest what might, under

certain circumstances, improve its general effect, and make it the very thing I would build myself when I have the occasion, and the means. The main body of the house is almost, perhaps quite, perfect. Its broad, liberal size; its sufficient, yet comfortable height; its well pitched, ample roof, widely protecting the walls from damp and frost; its high, upright gables, giving light, shape and convenience to the chambers; the several chimney stacks above, telling of cheerful, social firesides within; the massive porch in front, with open, inviting passage, and well fitting connection to the roof in subordinate capacity; the broad, yet neat veranda, covering the *whole* front, and resting back upon the tasty green-house, and spacious, wholesome kitchen, which so appropriately support it; and then its capacious and well arranged family bed-room, on the ground floor within,—are all features which mark this house a fitting and appropriate residence for an American country gentleman of any fortune or condition whatever.

It is excessively annoying to one who has a correct and substantial notion of country life, to see the artificial style, or fashion of the day, so prevalent in *amateur* retirement. A house, fantastic in shape; groined, buttressed and arched in all possible ways and directions; with finical gew-gawgery stuck on in every possible place where it can stick, or hang; and all so pinched up, and stiff, and finical without; and a perfect toy-shop within, looking so inhospitable—no matter how open may be the heart of the man—that it is enough of itself to freeze up all the kindly qualities of one's existence, as he looks upon it in contrast with the specimen before us. Why, there is more true hospitality and enjoyment in the pork and cabbage, with a glass of bottled cider, of the last, than in all the turtle

soup and champagne of the former. *Great* men don't live in such "fancy" houses, anywhere in these United States.

I know a gentleman who has been a general, a governor, a cabinet minister, a foreign ambassador, and possessed of an ample fortune, and, withal, a man of great hospitality, whose house never cost him five thousand dollars. But its ample and convenient rooms are filled with abundant and most comfortable furniture; a large library, costly and beautiful paintings, maps, and drawings; cabinets of minerals, ancient coins, and superscriptions; and all the choice things and bijouterie that a gentleman of education and taste would naturally pick up in foreign and domestic travel; yet all beautifully arranged, and so carelessly disposed, that not the slightest effort at effect is discovered, and at the display of which the plain, unsophisticated, matter-of-fact man is no more disconcerted than in entering the sitting-room of an ordinary farmer. And still, there is comfort in every degree, without ostentation or effort; and this house which you have designed is the very one for such a man, or for one of his finished, yet unpretending taste, to build and to live in—plain—substantial—home-like—and in harmony with all you desire within, or about it.

Allow me, however, to suggest an improvement. In looking at the grounds in its vicinity, I catch a glimpse of a lake, or river, in the distance, on which the rear of the mansion looks out, and, of course, the house itself is an object from the water, or its shores; and the upright, and apparently stiff, uncovered rear, presents a naked appearance to the eye. Therefore, allowing the green-house and kitchen their present positions, the library should be slightly curtailed in its length, and a light veranda thrown out on each side,—thus letting the

walls gracefully down to the ground as in front, and giving them appropriate shelter. A narrow side door for summer use could communicate from either wall of the library with this veranda, and in winter closed by an outer screen, or blind to keep out the cold and the weather. Or if more convenient to the occupation of the grounds, the kitchen could turn an angle rearwards, from which might be extended the wash-room, laundry, wood-house, &c. &c.—thus giving a finished and most convenient appearance to the whole structure—a perfect homestead.

I trust I may never see another *cellar* kitchen to a country house,—the bane and affliction of our wives; for in this country, where the occasional superintendence of the kitchen is indispensable to all good housekeepers, that department should always be within reach of the family rooms; a ready method of *housekeeping made easy*.

Vail's August Duke Cherry.—If this fruit is all that you describe, it is an acquisition invaluable to our pomology. Let it be thoroughly tried in our nurseries; and if, like the pudding, "the proof is in eating," it will be abundantly disseminated throughout the country.

Eursting the Bark in Cherry Trees.—Go on, gentlemen. You are doing "the state some service," and ere long they will "know it." I shall hold up till you get through, and then, possibly, have a word or two to say about it.

On Grape-vine Borders.—Dr. STEVENS knows a thing or two. And I am right glad he has broached this subject. When you and he have settled this matter of width of border, and depth of soil, the draining and moisture—any man of good observation can determine—we'll go to work and raise them in any quantity for domestic market. At all events, no more delicious

or admirable fruit can be offered to our palates than the grape; and they must—it's a settled question—be grown in vineries.

New Fruits of South Carolina.—It being, in my mind, "a settled fact," that every climate must grow *indigenously* its own *best* fruits for *ordinary* cultivation, our southern friends can do no better than to produce from their seedlings the fruits they require. I am glad to see they are at work in this important branch of their luxuries.

At Saratoga, where I was two years ago, at the state cattle show, a gentleman, connected with the pomological exhibition, brought down a basket of delicious plums from the show grounds, which he distributed among the guests at the dinner table of one of the fashionable hotels. I overheard a lady, to whom some of them were presented, remark, that she should preserve the stones and carry with her to South Carolina, where she intended to plant them. I trust she will receive a good account from them.

I have little doubt that, twenty years hence, our southern states will be well supplied with indigenous fruits, of the kinds now so easily cultivated with us, provided they give the requisite attention to it. Mr. SUMMER is entitled to the thanks of his friends and neighbors for his zeal in this department.

The Camellia Japonica.—Not knowing much about it, only as I admire its pure and delicious flower in a lady's hair, I shall, more wisely, let it alone.

On Indian Corn.—If Carlyle, like Cobbett, in his day, would only consent to write *English always* as he does now, he would be one of the most attractive authors of the day. Yet despite his vile transposition of his native tongue, I like him; and this es-

say on our Indian corn is valuable, and to the purpose. We can feed England, Scotland and Ireland cheaper and better on *our* corn, so far as required, than they can be fed in any other way; and when so simple and effective a method can be employed in drying it as we have at home, I am astonished that those "in the trade" do not at once establish works for its necessary preparation.

This article will do good in our country by drawing attention to the subject; and as Mr. Carlyle has condescended, in this instance, to write intelligible English, he may, by its success, be won into the exercise of his vernacular on other subjects. Suppose he should, for variety, attempt it.

Trees in Towns and Villages.—The best thing I have seen in a long time. Every village newspaper ought to publish this article, and every country dweller ought to lay it by for reference spring and fall; for no such man does his duty to his family and the world who does not plant a tree. Had I not already occupied so much of your paper with my gossiping "critiques," I would give you a chapter on trees. I love, aye, I always loved them,—from the old mulberry, that shaded the window through which I first saw the light, to the broad old butternut, that rattled down its kerneled fruit over the old brown school-house, where I recited the "shorter catechism," and the noble elms, oaks and walnuts, under whose grateful shadow I now lie down in summer to gaze at my grazing brood mares, and cattle, and sheep, as they gather around me—whew! I must be careful, or they'll scent me out. Another day we'll talk of the trees, when the gaping olfactories of your readers are in better trim than now.

JEFFREYS.

A BOTANICAL ACCOUNT OF CALIFORNIA.

[We borrow the following article from the Journal of the Horticultural Society of London. It was written by Mr. HARTWEG, a botanical collector, employed by the society to explore Mexico and the coast of the Pacific some time ago. His journey in California took place in 1846; and he wandered through the valley of the Sacramento without a dream of the wonderful changes which a couple of years would make in the destiny and appearance of that country.]

Of the beautiful California Horse Chestnut and the Evergreen Oak, described by Mr. H., we trust some of our California adventurers, returning home, will bring pockets full of seeds, that a trial may be made of their fitness for adorning pleasure-grounds here. ED.]

I left Mazatlan on the 11th of May, and arrived at Monterey on the 7th of June, after a passage of twenty-six days.

The verdant fields and pine-covered range of mountains at the back of the town form a pleasing contrast to the dried-up vegetation about Mazatlan. The predominating trees are an evergreen oak (*Quercus californica*), forming a tree thirty feet high, with a globular crown, and having the branches much distorted. It occurs principally in low but dry situations. The higher parts are occupied by *Pinus insignis*, a tree 60 to 100 feet high, with a stem of two to four feet in diameter. This species is liable to vary much in the size of the leaves (which stand in threes) and in the cones, according to local circumstances. In close woods, a mile or two from the sea-shore, at an elevation of 200 to 300 feet, the leaves usually measure four and a half to five and a half inches, and cones four to four and a half inches in length by two and a half broad; towards the beach, where the trees are mostly one-sided—a defect caused by northwest winds, which blow for the greater part of the year—both leaves and cones diminish in size. These differ-

ences, which are too insignificant to establish even varieties of *Pinus insignis*, have given rise to the names *Pinus tuberculata* and *radiata*, which were, according to Loudon, collected by the late Dr. Coulter near the sea-shore at Monterey; that locality, no doubt, is Point Pinos, as it is the only habitat near Monterey where pines grow close to the beach; it is at the same time the place where I made the foregoing observations. In all situations the cones grow three or four together in a cluster, remaining on the trees several years after shedding the seeds; are pendulous, with the apex somewhat recurved; deformed, that is, the scales on one side are more developed than on the other, and enclose two winged seeds under each scale. The cones are about eighteen to twenty-four months in ripening.

On the dry banks of ravines, to the northeast of the town, the Californian horse chestnut (*Pavia californica*), is common. This extremely ornamental shrub or low tree rises to the height of twenty-five feet, is of a globular shape, and produces its fragrant whitish flowers of a delicate pink hue in great abundance on spikes twelve inches long; one of these spikes, which I had the curiosity to count, had more than 400 open flowers and buds upon it. Of shrubs I observed *Ceanothus thyrsiflorus* very common in the pine woods, and forming an evergreen shrub ten to fifteen feet high; a *Sambucus*, *Lonicera racemosa*, *Spiræa arifolia*, *Rhus*, 3 sp., *Caprifolium Douglasii*, a *Diplacus*, *Garrya elliptica*, a *Rosa*, *Lupinus arboreus* and *ornatus*; *Ribes speciosum* and *malvaceum*; *Adenostoma fasciculata*, a neat little evergreen shrub allied to *Spiræa*; *Arctostaphylos*, 3 sp., a *Vaccinium*, *Gaultheria Shallon*, an evergreen *Prunus* resembling the Portugal Laurel. Of annuals and perennials, a *Hugelia*, *Delphinium*, 3 sp., *Leptosiphon androsaceus* and *densiflorus*; *Collinsia bicolor*, a *Convolvulus*, a *Malva*, *Lupinus succulentus* and *densiflorus*; a *Castilleja*, an *Oenothera*, a *Chironia*. Of bulbs, *Calochortus luteus*, *Cyclobothra alba*, *Brodiaëa congesta*,

Calliprora flava, *Hesperoscordum lacteum*, and a *Zygadenus* called *Amole*, of which the bruised roots serve as a substitute for soap.

On June the 22d I left Monterey for the mission of Santa Cruz. Santa Cruz is across the bay, due north, of Monterey, and at a distance of sixty miles by land, whilst by water it does not exceed twenty-five miles. Passing along the sea-shore over the plains, which present the same vegetation as about Monterey, we arrived in the afternoon at the mission, after a gallop of seven hours. The mountains of Santa Cruz are well wooded with *Taxodium sempervirens*, called by the American settlers redwood or bastard cedar. In close forests it grows to an enormous size, averaging 200 feet in height, with a stem of six to eight feet in diameter, which is as straight as an arrow, and clear of branches up to sixty or seventy feet. One tree, that is termed by the Americans "the giant of the forest," is 270 feet high, with a stem measuring fifty-five feet in circumference at six feet from the ground. The bark of the redwood is from six to twelve inches thick, reddish and smooth; the timber is of a beautiful red colour, like pencil wood, fine, close grained, light, but brittle; it is well adapted for in and out door work, as the boards when seasoned do not warp, nor is it attacked by insects. Large quantities of timber are annually exported to the Sandwich Islands; 1,000 feet of one-inch boards, delivered on the beach at Santa Cruz, are worth 8l. Some fine trees of *Abies Douglasii* are found in the mountains of Santa Cruz; they do not form masses of themselves, but are thinly scattered among the redwood trees, with which they vie in size. The mountain oak (*Castanea chrysophylla*?) also occurs here, forming a tree fifty feet high; of a pyramidal shape, with persistent lanceolate leaves four inches long, serrulate on the margin; below they are covered with a rusty, yellowish down, which in the young leaves also covers the upper surface. The fructiferous catkins are produced on the points of last year's wood, and do not exceed two inches in length, whilst the catkins on the young wood are from four to five inches long, and sterile. The nuts, or rather acorns, are covered, in an

unripe state, with down, and enclosed in an open cup, which on the outside is clothed with coarse scaly hairs. The mountain oak grows invariably in close shaded woods, and seems to be widely dispersed over the country west of the Rocky Mountains. Some Indian tribes eat the acorns either raw, or make a sort of bread of them. On the outskirts of the woods I observed *Arbutus procera* fifty feet high; a Lauraceous tree with linear light green leaves of nearly the same dimensions; two species of *Ceanothus*; a *Corylus*, a *Spiræa*, a *Solanum*, and *Zauschneria*, the latter with scarlet flowers like a *Fuchsia*.

On July the 2d I returned to Monterey. The few days of absence produced a great change even in the vegetation; the fields and woods, which before were covered with flowers, are now gradually drying up, from the total absence of rain during the summer months; even the bulbous plants had, during that time, shed their flowers and ripened their seeds. Crossing the wooded heights near Monterey, I arrived at Carmel Bay, after an easy walk of two hours; here I found a *Diervilla*, *Cupressus macrocarpa*, attaining the height of sixty feet, and a stem of nine feet in circumference, with far spreading branches, flat at the top, like a full grown Cedar of Lebanon, which it closely resembles at a distance; *Eschscholtzia crocea*, *E. californica*, *Platystemon californicum*, a scarlet *Castilleja*, a *Mesembryanthemum*, resembling *M. rubro-cinctum*; a *Cheiranthus*, *Stenactis speciosa*, an *Echeveria*, *Abronia rosea*, and *A. mellifera*. These two species, the former with pink, and the latter with orange flowers, are spreading on the sands near the sea shore, and delightfully scent the air with their perfume towards evening.

Another excursion, which I made to the Rancho de Tularcitos, led over the mission of Carmel. Following up the narrow valley of the Carmel river, I entered a beautiful wood of alders, willows, and plane-trees, some of the latter attaining the height of eighty feet, and twelve in circumference. Of herbaceous plants, I observed two species of *Solidago*, *Mimulus cardinalis*, a Labiate plant, an *Asclepias*, an annual, with an extremely powerful smell, which, if inhaled in excess, produces bleeding at the

nose. Of shrubs, a half-climbing *Caprifolium*, with small dingy flowers; a *Clematis*, a species of *Cercocarpus*, and on rocky ground, a patch of *Berberis Aquifolium*. The sides of the mountains, which attain no great elevation, are thinly covered with oaks. The higher parts, near the Rancho de Tulareitos, are occupied by *Pinus macrocarpa*, which rise to the height of eighty to a hundred feet, with a stem of six to eight feet in circumference. The larger trees had not yet ripened their cones, but the smaller ones, of twenty to thirty years' growth, ripen theirs at different periods, and furnished me with a few cones. On my return thence, over El Toro, a high mountain, destitute of trees or shrubs, but thickly covered with wild oats (*Avenæ* species,) I found, on the north side, in a ravine, a few small trees of *Pinus Sabiniana*, the highest of them not exceeding thirty feet. In this situation they appear to produce their cones when yet very young. Some trees, measuring from eight to ten feet in height, and of as many years' growth, had cones on them, which, like the foregoing species, seem to ripen about November.

On August the 23d, I embarked on board the bark *Joven Guipuzcoana*, whose owner, Don José Antonio Aguirre, invited me to take a trip with him up to the Bay of San Francisco. On the following day we anchored off Santa Cruz, where the ship was to remain a day or two. I took advantage of this delay, and made an excursion to the mountains, in a different direction from that visited before. Passing through a copse wood, composed chiefly of *Pavia californica*, *Quercus californica*, *Ceanothus thyrsiflorus*, a *Corylus*, *Rhus viride*, called *Yedra*, and justly dreaded by the inhabitants for its poisonous properties, I entered a beautiful pine wood. The leaves of this species of pine stand in threes; are longer than the cones, usually eleven inches in length; cones five inches long, by two and a half at the broadest part, of a reddish brown, the centre of the scales terminating in a small sharp point, bent downwards. The trees rise to the height of a hundred feet, with a stem three to four feet in diameter, producing the cones in clusters of three or four, which ripen towards September, or in about eight months from the time

of flowering. This handsome species of pine, which appears to be new, I have named, in compliment to the late secretary of the society, George Benthams, Esq., *Pinus Benthamiana*.

Another kind of pine that I found within a few hundred yards of the foregoing species is, probably, the doubtful and little known *Pinus californica*; the trees seem to be of slow growth, and do not attain any great height, seldom more than twenty-five feet by eight inches in diameter. The leaves are in bundles of three, four and a half inches long; cones, five to five and a half inches long by two broad, the outer surface curved, the inner straight, scales on the outer surface more developed, enclosing two small, flat, winged seeds. The cones are only produced on the main stem; when ripe, they are of a light brown colour, and stand off at nearly a right angle; when old, of a silvery grey, pressing firmly upon the stem, and remain on the trees for a series of years without opening or shedding their seeds.

On August the 28th, the bark got under weigh for Yerba Buena. The whole of the coast is destitute of trees or shrubs, with the exception of Point Año Nuevo, where some pines or cypresses seem to grow. On September the 2d, we were opposite the narrow but safe entrance to the bay of San Francisco; a large inland sea, divided into several branches, forming not only the principal port in California, but the largest and safest on the whole western coast of America. About noon we anchored off Yerba Buena, a small town, rising rapidly in importance.

The vegetation about Yerba Buena is poor; the sand hills that surround the town, and which extend for several miles into the interior, are but thinly covered with brushwood of oak, (*Quercus californica*, *Ceanothus thyrsiflorus*, *Rhus*, "Toyon," a *Prunus*, and a *Baccharis*.)

On September the 10th, I went across the bay to Sausalito. Early the following morning, we were joined at the mission of San Rafael, by General Vallejo. After enjoying the hospitable board of General Vallejo for three days, I left my companions and proceeded with F——, an Englishman, to his farm at San Miguel, distant thirty

miles, where he is established with two of his countrymen in raising grain and rearing horses and cattle. The face of the country about Sonoma and San Miguel is perfectly level towards the bay, and capable of great agricultural improvements. Several species of oak (*Quercus*) thrive well in the fine black vegetable mould, and are disposed into large irregular clumps, giving the country the appearance of an immense park, enlivened by numerous herds of elks and antelopes. A ridge of mountains which rises at a short distance from San Miguel is thinly scattered over with oaks, and a few *Abies Douglasii* interspersed. No other kinds of pine occur here. In the shaded dells I found a *Viburnum*, *Euonymus*, and a large leaved *Calycanthus* in seed.

From San Miguel I went to Bodega, where the Russians a few years back had an establishment granted them by the Mexican government, in order to supply their possessions in the north with wheat, &c. When their term expired, it was purchased by Captain S——, an American, who erected a steam saw-mill there, for which the redwood trees that cover the mountains supply him amply with material. This is the most northern limit of this magnificent tree, growing at intervals from the latitude of 32° N. up to the River Ross in 38° 15'. From Bodega I returned by way of San Rafael to Sausalito, passing over a beautifully undulated prairie, destitute of water or trees. On October the 7th I returned to Monterey.

With the beginning of November the periodical rains have set in; they are unaccompanied by thunder, but continue for several days without intermission, and terminate by the end of March. The heaviest fall of rain occurs in January and February. Judging from the quantity that fell up to the middle of December, it would seem that the rains will be more abundant than for some years past. El Toro, which lies due east of Monterey, has already been twice covered with snow, but it soon disappeared again. The rainy days are succeeded by frosty mornings, but the cold is seldom so intense as to freeze water. The thermometer, which ranges in Monterey during the summer months from 62° to 65° of Fahr., is now from 50° to 55° during the day.

With January the rains set in unusually severe; the Salinas and other rivers, which are fordable during ordinary seasons, have now become impassable. The first indications of the returning spring I observed in the flowering of *Garrya elliptica*, *Berberis Aquifolium*, *Ribes speciosum*, *R. malvaceum*, some *Arctostaphylos*, a *Vaccinium*, a dwarf shrubby *Rubus*, with white pendulous flowers, and an *Ornithogalum*.

When the weather permitted it, I continued my rambles on foot in the mountains of Monterey, and discovered on the western declivity, within two miles of the sea shore, a species of pine which I had not found previously. The leaves are two in sheath, three to five inches long; cones in clusters of four to seven, oval, three inches long by two broad, of a reddish brown before they are perfectly ripe, then changing into light brown; scales pyramidal, terminating in an ash-gray sharp point. The trees attain no great elevation, averaging twenty feet, rarely thirty, with a stem of twelve inches in diameter; they are confined to half a square mile, and like *P. insignis*, by which they are surrounded on all sides, thrive in coarsely decomposed granite. This species, which appears to be new, I have named, in compliment to Thomas Edgar, Esq., the society's treasurer, *Pinus Edgariana*. In the same locality with the above pine, I observed a cypress (*Cypressus*) with smaller cones than *C. macrocarpa*, of which it seems more than a variety, being a stunted shrub six or ten feet high.

Returning by a different route, through a thick brushwood of *Arctostaphylos* and *Ceanothus*, I found on the steep acclivity, in a shaded dell, a *Rhododendron*, without seeds or flowers, forming a shrub five feet high, well beset with flower buds, and *Castanea chrysophylla** in the same condition; this evergreen chestnut forms a shrub three to eight feet high, of a pyramidal shape, with persistent lanceolate leaves, green above, and of a rich golden yellow below. From its situation, and habit in general, it may be expected, if I am fortunate enough to introduce it, to withstand the ordinary winters about the neighborhood of London, since it is known from experience, that

* What was called so formerly is a different species of *Castanea*.

Ceanothus thyrsiflorus, with which it grows, is of that degree of hardness.

In February, a species of *Dodecatheon* appeared everywhere common, as also *Fragaria vesca*, a *Cardamine*, a *Viola*, a *Saxifraga*, and two *Trilliums*; of shrubs, two species of *Ceanothus*, the one producing numerous bundles of blue flowers from the axils of its small evergreen leaves; the other, *C. thyrsiflorus*, often attaining the size of a small tree, sending forth its numerous heads of azure flowers from last year's wood. In the sandy plains towards the River Salinas, the large, golden flowered *Viola chrysantha*, *Nemophila insignis*, *Eschscholtzia crocea*, and *E. californica*, were common.

My sojourn in California being restricted according to my instructions to one year, whilst a similar period is to be devoted to visiting the northern provinces of Mexico, or in case I find this country a favorable field for my exertions, permission having been granted, until I received orders to the contrary, that I may stay the whole term of two years in California: I resolved, in the absence of new instructions from the Council of the Society, not to proceed to northern Mexico, where, during the war with the United States, my peaceful occupation might be disturbed, and my personal safety endangered, but to remain another season in California; more especially as, from my late arrival in this country, and subsequent circumstances, I could not extend my excursions as I intended to have done. The next step to be considered is, whither can I proceed to follow my occupation with satisfaction to my employers and myself? The country has been taken possession of last year by an American force, much against the good will of the Californians. Now, although the country is apparently quiet, it is difficult to foretell how long it may last, and if these disturbances should break out again during my busy season, it might soon, it might seriously affect my plans. I therefore came to the conclusion of visiting the Sacramento Valley, where the settlers are all foreigners, and where I need not be under any apprehensions of disturbances in the lower country.

Accordingly I embarked on the 8th of March on board the American bark Tasso,

and arrived at Yerba Buena after a passage of five days. A few days' detention enabled me to examine the neighborhood, and added to my collection, among other less interesting plants, a white *Myosotis*, a *Liliaceous* plant, an *Enothera*, a scarlet *Aquilegia*, an *Iris*, and *Ribes echinatum*, the latter common on the sandhills that surround the town.

On March the 23d I embarked in a small launch with Mr. Cordua, who was proceeding to his farm in the Sacramento Valley, and who kindly invited me to make his house my head-quarters; an invitation which I gladly accepted, as from his long residence in the country, and the situation of his farm, in the centre of the valley, I anticipated many happy results. Late in the afternoon of the following day we arrived at the Corte de Madera, which, as the name implies, is a woodcutting establishment, where Mr. Cordua had some business to transact. Half an hour's ramble in a fine grove of redwood trees furnished me with a brown, small flowering *Martagon*, a *Boraginaceous* plant, and an *Equisetum*. The same night we left again, and passing the following morning through the straits of Carquinez into Suisun bay, we entered the River Sacramento in the afternoon. The aspect of the country is flat, presenting a boundless field of rushes as far as the eye can reach, bordered on both sides by a distant ridge of mountains, which, from the severity of last winter, presented a line of snow. The lowlands of the Sacramento are subject to inundations during the spring months, and are destitute of trees, with the exception of the banks, which, from the accumulation of soil during the inundations, are higher than the rushlands; a belt of trees and shrubs, varying from thirty to two hundred yards in depth, extends along the banks, and is chiefly composed of Oaks, *Platanus*, Willows, *Poplars*, Ash, *Negundo californicum*, *Pavia californica*, *Cornus*, a dwarf Birch, and a Grapevine. After a tedious process of warping up the launch against a strong current, we arrived at the landing place of Fort Sacramento, on the 31st of March.

The vegetation in the Upper Sacramento valley is much earlier than about the bay of San Francisco; there the trees were still

apparently dead, whilst here the Oaks were sending forth their young leaves, and the prairies were teeming with flowers, among which I recognised many old acquaintances. It was delightful to behold the variety of colours over the extensive prairie, produced by patches of a *Leptosiphon*, *Gilia tricolor*, *G. capitata*, *Oxyura chrysanthemoides*, *Platystemon californicum*, *Nemophila insignis*, and another species, two *Compositæ*, a *Viola*, *Eschscholtzia crocea*, *E. californica*, a *Delphinium*, and, in places where water collects during the rainy season, a *Martagon*, with dingy yellow flowers spotted with brown, *Mimulus tricolor*, two inches high, and *Limnanthes pulchella*, having an abundance of delicate pink flowers.

On April the 13th I left with Mr. L. for his farm, seventy miles higher up in the valley. Mr. L. had been in the lower country, and came up thus far with his goods in a large canoe, and was now proceeding with them in waggons. Crossing Feather river, which here is eighty yards broad, and of considerable depth, our course lay five and twenty miles along that river, through a beautiful wood of evergreen and deciduous Oaks: here I found, in sandy tracts, a *Leptosiphon*, with white fragrant flowers; and *Collinsia*, and *C. bicolor*, the latter invariably growing at the foot of large oaks. Leaving Feather river, we struck across a prairie for twenty miles: here immense fields of *Eschscholtzia crocea*, *E. californica*, and a *Ranunculus*, presented themselves, each species growing by itself, which with the plants observed on Mr. Cordua's farm, and *Lupinus nanus*, two *Delphiniums*, a *Trifolium*, several *Compositæ*, an *Oenothera*, and a *Malvaceous* plant, produced a splendid effect. A small patch of the beautiful little *Leptosiphon aureus*, with golden flowers, I also found in the open prairie; it is, however, by no means common. The prairies in the Sacramento Valley are divided by small rivers, termed "creeks" by the American settlers: these creeks generally have a border of oaks upon their banks, which also extend over the rich bottom lands. In the dry beds of these rivers I observed plants which nowhere are to be found on the prairie, the seeds of which have evidently been carried down from the mountains during the rains, as for example,

Pentstemon azureum; an *Umbelliferous* plant, with an aromatic tap-root, held in repute among the Indians for its medicinal properties; in rather damp places, *Clintonia elegans*, *C. pulchella*, and *Limnanthes alba*. A four days' slow drive with the waggons brought us to the farm of my companion: the vegetation here differed in no respect from that already observed in the valley.

An opportunity of visiting the mountains was afforded me a few days after my arrival, which I embraced with pleasure, as from the hostile character of the mountain Indians towards the settlers, it was not deemed prudent for me to make an excursion in that direction, attended by a guide only; I therefore joined a party of settlers who were going to the mountains to examine the timber, and if possible to find a site for a saw-mill. On the first evening we encamped under a large oak, near Pine creek, a little mountain rivulet; here I found *Asagæa*, a *Lychnis*, an *Umbellifer*, *Triteleia*, with a head of pink flowers supported on a *twining* stem, five feet long; in the creek, a *Saxifraga*; of shrubs and trees, a *Ceanothus*, evergreen and deciduous oaks, and *Pinus Sabiniana*. This species of pine, of which I saw some small trees near Monterey last year, rises here to the height of fifty or sixty feet, with a stem of six feet in circumference, and possesses none of the regularity so characteristic of the pine tribe. The branches, which in other pines stand in whorls, are in this species quite irregular (except when young,) which, combined with the paucity of its partly bent down, glaucous leaves, gives the tree a peculiar appearance. Early the following morning we ascended the gradual acclivity, and passed through a brushwood entirely composed of a species of *Ceanothus*. At noon we arrived at the edge of a noble pine forest; a few moments' rest, during which one of our companions shot a deer, enabled me to collect a *Viola*, an *Erythronium*, a *Prunus*, a *Lilium*, and a *Cyclobothra*. The species of pine composing the forest is principally *Pinus Benthamiana*, with a few trees of *P. Lambertiana*, *Abies nobilis*, and a species of *Thuja* intermixed, a *Ceanothus*, spreading on the ground, and *Cornus florida*, which were

the only plants observed in the pinewoods. On our return through a steep ravine, I found a shrubby *Cercis*, with pink flowers, a *Prunus*, and again *Cyclobothra*.

By the end of April the prairies in the Sacramento Valley assumed a different aspect; two weeks ago they were a carpet of flowers, which have now disappeared, and a yellow, sickly tinge pervades the whole: such is the rapidity of vegetation under the cloudless sky of a tropical sun. Bulbous plants now make their appearance; the most common being *Triteleia laxa*, which not only grows in the open prairie, but also in the shaded and damp lowlands; a pure white variety of it I also found; it is, however, by no means common. One of the species of *Calochortus* is also very frequent; a whitish variety occurs occasionally along with *Brodiaea congesta*, and another *Lilacæus* plant.

Being now aware of the rapidity of Californian vegetation, I lost no time in collecting such seeds as were worth taking, and returned to my head-quarters by the beginning of May. Most kinds had, during the fortnight since I first saw them in flower, ripened their seeds, and it was with difficulty I found a few grains of the beautiful little *Leptosiphon aureus*, and similar plants, which, between their taller neighbors, had almost become invisible.

An excursion to "the Butes," an isolated group of mountains between the Sacramento and Feather rivers, furnished me with species of *Campanulacæ*, *Labiata*, *Scrophularinæ*, and *Compositæ*; a *Gilia*, a *Linum*, a *Trifolium*, two species of *Asclepias*, *Clarkia elegans*, *Lupinus densiflorus*, and an Umbellifer, called *Yerba de la vivora*, the leaves and stem of which are universally used with success against the bite of rattlesnakes. From the rocky summit of the Butes a beautiful view is obtained of the Sacramento Valley; during the time of my visit, the lower country, owing to the melting of the snow in the mountains, and consequent inundations, presented an immense lake.

Another excursion I made to the mountains led along the right bank of the Chuba river, over the now parched up prairie. A ride of fifteen miles brought me to the foot of the mountains. The lower range, as in

the former visit higher up in the valley, is occupied by a *Ceanothus*, a few live oaks, and *Pinus Sabiniana*. Following a small rivulet, I found there a *Mentha*, and another Labiate plant, *Stenactis*, a shrubby Labiate with large white flowers, and *Collinsia tinctoria*. This new species of *Collinsia* is of stronger growth, though less striking, than *C. bicolor*; it grows chiefly in the dry sandy bed or on the banks of the rivulet, and produces its yellowish flowers mottled with purple much later than *C. bicolor*. On a subsequent occasion, when I returned to this place to procure seeds of it, my hands were stained yellow by the glandulous hairs which cover the seedpods, from which circumstance I named it *Collinsia tinctoria*. Another interesting plant I found on this excursion is *Nemophila speciosa*, with white petals, one-third of which is tipped with purple. It grows generally near rivulets, or in damp and partly shaded places. If the few seeds I procured should vegetate, it will prove a great acquisition to that handsome genus. The higher part of this range of mountains is less accessible than on the former visit. My endeavors to proceed farther were eventually frustrated by the steep banks and swollen state of the Chuba.

By the beginning of June I set out again, in company with Mr. Cordua and an Indian, to visit if possible the snowy heights of the mountains, generally termed by emigrants from the United States the Californian Mountains. After Crossing the Chuba river, we struck across the prairie, and entered the mountains near Bear Creek, where we encamped towards evening in a grove of *Pinus Sabiniana* and oaks. The vegetation here differed in nothing from that observed on the right bank of the Chuba on a former visit. *Calochortus*, which had been very common throughout the Sacramento Valley, was still in flower here, the white variety being more frequent than the yellow. Early the following morning we were *en route* again, passing through an interminable wood of *Pinus Sabiniana* and oaks. Here I observed a pretty little *Alium*, with purple flowers, an *Asarum*, a *Viola*, a *Polemonium* (?), *Hosackia bicolor*, and *Mimulus bicolor*, the two last luxuriating in the sandy bed of dried up rivulets. As-

cending the gradual acclivity, we left the region of *Pinus Sabiniana*, and entered that of *Pinus Benthamiana*, which seems to be the characteristic of the upper region. Some trees of this noble pine attain an enormous size. The largest I measured were 28 feet in circumference, and 220 feet high. Of equal dimensions is *P. Lambertiana*, which, however, does not constitute masses by itself, but is thinly scattered among the former. The same is the case with a *Thuja*, which rises to the height of 130 feet, by 12 to 15 in circumference. Few plants occur in these pine tracts; the principal being some *Cyclobothras*, a *Calliprora*, an *Iris*, *Papaveracea*; and, in shaded places, a *Rubus*, a *Philadelphus*, a *Spiræa*, *Pyrus florida*, a *Rosaceous* plant, and a *Taxus*—the latter, judging from the few specimens I saw, attaining only the size of a shrub or small tree.

On the fourth day we reached Bear Valley, a beautiful little mountain valley surrounded by a lofty ridge of mountains, which is well wooded with *Pinus Benthamiana*. The north side of the valley was still covered with snow. On the south side, however, a few spring flowers had made their appearance, among which I observed *Pæonia californica*, with brown petals edged with orange; some *Compositæ*, a *Ranunculus*, a *Corydalis*, and a *Nicotiana*. A new species of pine occurred in the valley, of which I only saw two trees of dwarf growth, probably stragglers from a more northern latitude. The leaves stand in pairs, and are three inches long; cones two inches long, by one broad. In general appearance the tree is not unlike a young Scotch fir. The cones at the time of my visit were open, and the seeds had fallen out. The upper end of the valley is bounded by a mass of granite, terminating in a precipice 800 feet in depth, below which the Chuba river is winding its way, appearing like a sheet of foam. In warm and sheltered situations, where the snow had melted, I observed an *Allium*, a *Pentstemon*, a *Statice*, a *Phlox*, and a *Calochortus*—the latter not yet in flower. The more elevated parts above Bear Valley, from the severity of last winter, were still several feet deep, covered with snow, for which reason we returned hence by the same road we came.

Immediately upon my arrival at head quarters, I proceeded once more to the Upper Sacramento Valley to collect such seeds as I could not procure before.

Having packed up my collections, and sent part by water to San Francisco, I left on the 30th of June for Monterey, in company with an American whom I had engaged as guide. Towards evening of the same day we arrived at the junction of the Feather river with the Sacramento; and passing, the following morning, our luggage over in a canoe, we swam the horses across; the distance from shore to shore being not less than 300 yards. We now continued our course over the prairie on the right bank of the Sacramento river for two days, and crossed again to the south side in a ferry boat, at the Straits of Carquinez. A kind of tertian fever, accompanied by violent headache, under which I had been suffering some days previous to my departure, here developed itself into a quotidian fever and ague, which for want of proper medicines, the constant exposure to a tropical sun during the day, and camping out at night, soon reduced me to such a state of debility as scarcely to be able to sit on horseback.

From the Straits of Carquinez we passed along the Bay of San Francisco to the Pueblo of San José, and reached Monterey on the 8th of July. Soon after my arrival (having, with the assistance of my little medicine chest, cured myself,) I continued my excursions about Monterey as far as returning strength permitted, and collected such kinds of seeds as I thought worth preserving. Towards the end of July I went over to Santa Cruz for a similar purpose, and whilst visiting a family upon their farm, with whom I had become intimately acquainted during their winter residence in Monterey, I was again taken ill with fever and ague. In addition to the seeds which I collected in the Santa Cruz mountains last year, I found the evergreen Chestnut with ripe fruit. This shrub, of which I had been most anxious to procure seeds, attains the height of ten feet, and is of a pyramidal form. The nuts, which are produced in prickly clusters on the points of the young wood, are each enclosed in separate cells, and are of the same size and

shape as the beech-nut. The kernel is pleasant to eat, resembling the filbert in flavor.

On August the 13th I returned to Monterey, and was once more laid up with fever and ague, from which I did not recover until the beginning of September. On September the 6th I went again over to Santa Cruz in quest of pine cones, which were now ripening. The sorts I procured were *Abies Douglasii*, *Pinus Californica*, and *P. Benthamiana*. The cones of the latter were unusually scarce this season, and seem to have suffered from late spring frosts. A few cones were all I could procure of this sort. They were smaller than those of the preceding year, and contained but few good seeds.

On September the 20th I again left Monterey for the southern parts, which, on account of the disturbed state of last year, I could not visit before. As guide I engaged the services of a man who had accompanied me on my last excursion to Santa Cruz, and who, from his profession as a hunter, was well acquainted with the intricate mountain paths of the district I intended to visit. On the day of our starting we reached the mission of La Solidar, an ill-constructed, half-ruined building, situate in the Salinas valley, and encamped towards evening on the banks of the Salinas river, within a short distance of the mission. By sunrise the following morning we were again on horseback, and leaving the main road on the right, we entered a mountain defile leading to the mission of San Antonio. Here I observed a shrubby *Arctostaphylos*, with large brown seeds; a half-climbing *Caprifolium*, profusely covered with scarlet berries; an evergreen shrubby oak; and a subdeciduous oak, the latter forming a tree thirty feet high.

From San Antonio a range of mountains extends along the coast, attaining a great elevation, which, although apparently barren, as seen from the mission, I was assured, on the western flank towards the sea is covered by large pines. The lower region of this range, at the foot of which the mission is built, is thinly covered with the evergreen Californian Oak, a *Ceanothus*, *Cercocarpus*, a small leaved shrubby *Fraxinus*, and *Pinus Sabiniana*—the latter at

the time with ripe cones. An evergreen shrubby *Prunus*, called Islay, with a holly-like leaf, bearing a red fruit resembling the cherry-plum, grows also abundantly here. The thin pulp which surrounds the proportionate large seed is sweet and pleasant to eat. The kernel, after being roasted and made into gruel, is a favorite dish amongst the Indians. Having ascended the first ridge, we passed through thickets of *Arctostaphylos tomentosa* and *Ceanothus thyrsiflorus*, and entered a forest of *Pinus Lambertiana*. The cones of this noble pine are always hanging from the points of the branches, were by this time already open, and the seeds had fallen out. From cones that had been blown down, I picked out a few seeds.

Descending the western flank of the great mountain range, I found at last the long wished for *Abies bracteata*, occupying exclusively ravines. This remarkable Fir attains the height of fifty feet, with a stem from twelve to fifteen feet in diameter, one-third of which is clear of branches, and the remainder forming an elongated tapering pyramid, of which the upper part, for three feet, is productive of cones. Having cut down some trees, I found to my regret that the cones were but half grown, and had been frost-bitten. In more sheltered situations, towards the sea shore, the same happened to be the case; and I was thus precluded all hope of introducing this remarkable Fir into Europe.

Finding it impossible to prosecute my journey to the south along the coast, from the numerous ravines which descend from the mountain range, I returned hence to San Antonio, and crossed by the farm of El Piojo, where the ridge is less elevated. A small pine wood, which became visible on our descent, extending along the beach, looked like an oasis in the desert—the dark green of the pines forming a beautiful contrast with the parched-up fields. Upon a nearer examination, I found the wood to be composed of a variety of *Pinus insignis*, with larger cones than those about Monterey, from which it also differs in their being produced in less abundance. Following along the sea shore for nine miles, we struck inland again, and arrived at the mission of San Luis Obispo, from whence

we proceeded over a flat and uninteresting country to the mission of Santa Ines. The whole of this route is but poorly wooded by a few stunted oaks. On the ascent to the mission of La Purissima, the monotony of the bare hills was somewhat relieved by a small forest of *Pinus Edgariana*, which attains no larger size than those observed near Monterey.

Previous to leaving Monterey I was told by several persons that a kind of thin-shelled pine-nut is occasionally brought for sale by the Indians to Santa Ines and Santa Barbara, without being able to learn any more respecting it. Upon making further inquiries at Santa Ines, I was told that the Indians bring them from a great distance, that the harvest of them was over, but that I might procure a few of the mission Indians. Proceeding to a hut which was pointed out to me, I bought a gallon of the fresh seeds; and inquiring about the size of the cones, the Indian handed me two, with the information that the trees are of a small size; when, judge my surprise, I recognized in them those of *Pinus Llaveana*, which I had on former occasions found in several parts of Mexico.

Seeing there was no prospect of enriching my collection of seeds by proceeding further to the south, I returned from Santa Ines to San Luis Obispo, near which mission the late Dr. Coulter gives the station of *Pinus muricata*, and which seemed to have escaped my notice when first passing through that place. Upon a nearer exami-

nation I found that on the "Crusta," or ascent from San Luis Obispo, only one kind of pine is growing on the brow of the mountains, which proved to be *P. macrocarpa*. From San Luis we returned to San Antonio, over a flat and uninteresting road, and thence to Monterey, where we arrived on the 18th of October.

On October the 25th I again left Monterey, with my former guide, to visit the continuation of the San Antonio range of mountains, which, from the nature of the ground on that side, I attempted now by a different route. Following along the sea-coast over a succession of hills intersected by numerous deep ravines, we found our further progress impeded on the third day by the extreme steepness of the range. The only objects derived from this excursion were some very fine cones of *Pinus macrocarpa*, some measuring fifteen inches in length; they were growing on trees thirty to forty feet high, in rather exposed situations, at an elevation of about 4,000 feet above the level of the sea.

By the beginning of November we returned to Monterey. The rainy season being now close at hand, and having no more excursions to make, I prepared to return to Europe with my collection. Owing to the little traffic carried on between California and the western ports of Mexico or central America, I did not procure a passage before the 5th of February. I arrived at Southampton, after a very fine passage, on the 3d of June.

GROWING FOREIGN GRAPES IN HOT-HOUSE FRAMES.

BY ROBERT MESTON, NASHVILLE, TENN.

A. J. DOWNING, ESQ.—*Sir*: I see in the December number of the *Horticulturist* a doubt, whether Black Hamburg grapes can be grown in common hot-bed frames. I will give you my experience upon this subject, and if of any value to your readers they are welcome to it.

In the first place, the Black Hamburg grapes do well in common frames in England; and my opinion is that they will do better in this country, as of the two, this is the best climate for early forcing, as we have less fog and more sun.

It must be understood that vines forced

after this method require a border equally as good, and as much nourishment, as vines planted in a vinery.

The vines are planted against a wall, or close fence, about three or four feet apart, according to the width of the lights or sashes to be used, planting one vine to each light or sash. If a second frame is required, leave a wider space between the two frames. The vines I should plant, would be one year old from the bud; and if in a good border, when three years old would be in good fruiting condition. Cut them down to one eye until the season before they are intended to fruit, then encourage two canes; the strongest is allowed to run its whole length, only stopping the laterals. The remaining cane is stopped at five or six feet, to throw as much strength as possible into the fruiting cane.

The frame should be three feet high in the back, with a hole cut in the back under the centre of each light, to be shut up with a sliding door,—observing to do the same with the front. Nail brackets on the bearers of the lights about one foot apart, and about the same distance from the glass as the upper end of the frame, diminishing gradually from back to front to eight inches. Upon these brackets is nailed the strips that form the trellis. [In other words, make a trellis so that it is eight inches from the glass at the front of the frame, and a foot at the back.]

Frames of any size will do; but if I were going to make new ones, I should prefer a frame the width of four lights,—the lights or sashes from eight to ten feet long.

Making up the hot-bed is the next consideration. For this purpose, get long ma-

nure enough to make a bed about eighteen inches high, well fermented, and packed together; and form the hot-bed about eight inches larger than the frame all around. When settled, put about four inches of very coarse sand, or creek gravel, or some other material that will allow the heat and moisture to escape into the frame, and still hold the heat. When the frame is put on, pass the fruiting cane in the back and train it down the trellis in *serpentine* form,—never allowing the turns to approach nearer than a foot. The cane which is left out must be cut down to one eye, to make fruiting wood for next year. The cane that fruits this year is cut down next, and so on. The bed should be made about three feet from the wall. The vines will soon begin to break, with proper management; then the treatment is the same as with grapes in a vinery.

I would not advise any one to begin this method of forcing grapes too early in the season in the northern and eastern states; but rather to wait until the winter is thoroughly broken up. Put the frame on the border, and put the vines in two or three weeks before forcing them. By closing the frames early, and syringing the vines and sand, you will give a great assistance to the swelling of the fruit. If the vines are not to be forced the hot-bed can be dispensed with; only the frame and lights and well prepared border being necessary. I have no doubt but any variety may be grown this way. The Black Hamburg does well in cold frames in England, and in this sunny climate. I should not be afraid to risk any of the other varieties.

Respectfully, ROBERT MESTON.

Nashville Horticultural Gardens, Ten., Dec. 2, 1849.

NOTES ON FRUIT CULTURE IN ILLINOIS.

BY PROFESSOR TURNER, ILLINOIS COLLEGE.

A. J. DOWNING, Esq.—*Dear Sir*: Since my last, some facts have come under my notice which I think may be of general interest.

And first, in my last communication I stated that the gentleman in St. Louis did not summer-prune his grapes, as I then supposed, on good authority; but I have since learned, from a more reliable source, that he does practice rigorous summer-pruning, as well as training on very high trellises. My own grapes last fall all blasted, except a few on one Catawba and one Catarobe vine, which bore a full crop, on that part of the trellises which was more than ten feet above the ground, though they nearly all blighted below that point. This Catarobe vine stands, also, in what cultivators would generally consider the worst possible location. It was planted mainly for shade, ten feet east of a shed and cherry tree, which shuts off all sun from the west, and four feet north of a wood-house, which wholly excludes the southern sun from the roots; a large peach tree stands about six feet to the south end of it, shading it also in that direction; so that the sun can rarely strike the ground where it grows. Hard beaten paths—one to my stable and another branching to my carriage-house—pass directly under it; and indeed the whole surface is so firmly trodden for some feet all around it, that nothing will grow but chick-weed; and the ground has never been stirred by any implement since the vine was set—several years since. And as I never expected any fruit from the vine, I let it run at random up the trunk of a dead locust tree, and have never once touched it with a knife summer nor winter.

Add to this a leading-trough, which conducts water from a well twenty-four feet deep to the stable-yard, makes a right angle directly under this vine; and the water from the well, every time it is poured in it, (which is always at least two or three times each day,) runs over the angle in the trough, and keeps the hard surface of the ground drenched wet with cold water and ice from one year's end to the other. Yet this ugly, capricious vine, as if in mockery at once of all my theories, my expectations, and my toils, last year bore a full crop of good ripe grapes; while all my other vines which I have pruned, and tilled, and trimmed, and manured, and salted, and bone-dusted, and limed, and sulphured, and root-pruned, and trenched, and trained up, and trained down, and trained sideways, all—all failed. Now if any of your correspondents can tell why it ripened its fruit, unless it was from sheer spite,—real “malice prepense,” as the gentry of the satchel would say,—they can do more than I can. However, it should be said that the Catarobe has ripened ever with me better than any other grape I ever had; and a gentleman, who is a professed amateur of the vine, and has travelled extensively both in this country and in Europe to study its habits and wants, informs me that in this western country he has noticed that this is a general fact. But why should this vine bear so much better, or, at least, ripen its fruit so much better than any other Catarobe vines? There is the mystery.* A

* We do not know this Catarobe grape: but if, as we suppose, it is a native of Illinois, the matter is explained at once, by its being at home in that climate. The Catawba, with us, bears admirable crops, close pruned; and we suspect the difficulty with this, and other southern grapes in Illinois, is that the climate in summer is not congenial to them. ED.

legitimate inference from this single fact would run somewhat as follows: "Set your vine in the worst place on your premises you can find—even where you suppose it can never bear a berry; neglect it all you possibly can, except to pour cold water upon its roots three times each day the year round, and if all your other grapes blight it will not." Now this case thus shows the danger of inferences from single facts, which is one end I had in view in citing it. With this single exception, all remedies for grapes this year have totally failed, so far as my knowledge extends, wherever the vine stood on a close bottomed soil, or subsoil of clay or marl.

Pear Blight.—Mr. CHAMBERLAIN, the oldest and most experienced nurseryman in this vicinity, invited me last September to call and examine his pear trees,—saying that he could there show me full proof of my theory of blight, so far as this region at least was concerned, if I would do so. A few days after I rode out, and was myself quite surprised to see several of his finest pear trees, from roots some ten years old, sun-scalded on the southwest side. The corticle appeared at first view as fresh and healthy as ever. The trees had made a fine vigorous growth through the summer; and at four feet distance from the trunk not the slightest indication of any approximation to disease could at first be discovered. But on cutting through the corticle with a knife, the trunks were in many cases blotched with streaks of dead, putrid bark, although the last summer's growth of wood directly under these blotches was as sound, and clean, and as vigorous as on any other part of the tree. These blotches invariably commenced on the southwest side of the trunk or large limbs, at precisely that point where the rays of the sun struck it with greatest power, and generally where

there was a slight crook or inclination toward the sun. The poison from the blotch seemed to diffuse itself upwards and downwards chiefly, but in some cases also laterally, almost or quite round the tree. In a few days the leaves about the blotch began to turn black at the top; and the whole limb, or the whole tree, (as the case might be,) connected with the blotch died. Mr. CHAMBERLAIN was at work, himself, in his fruit-yard every day, and says that he knows that the trees were perfectly healthy up to a peculiarly hot week in August, when he accidentally discovered the mischief in its incipient stages, in attempting to side-graft a tree, and on close inspection found it on several others; none of which, however, were from seedling roots. And on this point he cannot have been mistaken, as the reason's growth directly under the blotches clearly proves. Now this certainly was *not frozen-sap blight*. Still, it *is* the blight that most troubles us here, however it may be elsewhere, and which he, as well as myself, once thought to be frozen-sap blight; but now we know that it is not.

I have noticed no new developments of the disease on the leaf of my own pear trees which I described in my last, and of course do not now expect to until spring.

Cherry Trees.—I have read, with much care and interest, the remarks of your esteemed correspondents on the bursting of the bark on cherry trees; and I cannot say that their observations and philosophy are not correct for their latitude and longitude. But it certainly will not do here; and nothing that has been tried, but peeling the corticle, will do. It certainly is not true, *here*, that the corticle continues an organic part of the tree, and expands with its expansion until it easily bursts; and a single fact proves it. I have just been over to measure a couple of cherry trees, of the

Red Heart variety, which I peeled for a neighbor two years ago, up as high as I could reach from the ground; and above that, left three unpeeled, thinking the shade of the leaves would protect them. And so indeed it has. But the circumference of the whole trunk, for some seven or eight feet above the ground, on the part peeled, has increased in two years some four inches, while the unpeeled part above has scarcely increased an inch,—making a bulge now on the part peeled of some three inches greater circumference than the unpeeled part, some six inches above. Now this is the way all our cherry trees of the better class will grow in fact here, however they ought to grow in theory; and I have never yet seen the first tree burst its bark after it was relieved by removing the corticle entirely; nor have I known any other injury from it, though nearly or quite every unpeeled tree in the county has burst its bark before it was ten years old. These are the facts in the case so far, though I admit the trial has not stood through a sufficient number of years to warrant us in saying that trees so peeled *never will burst*. For some entirely new phase of the matter may come up yet. We can only speak of what we do know, and not of what we do not know. And very likely a similar disease may proceed from entirely other causes in other places, and require quite other remedies. I say this is possible.

The remarks of my respected correspondent, Mr. ELLIOT, I doubt not are true, and fully applicable where he lives, as he has a far greater practical knowledge of cherry trees than I can pretend to. He had the kindness to send me last spring half a dozen of his choicest cherry trees, done up in most perfect style, with which I intended to have prosecuted a series of experiments. But unfortunately, from the bursting of the

canal and impassable roads, they did not arrive until they had all leaved out in the bundle; and with all my care I could save but one of them. I noticed that these trees were of a much shorter, hardier, and more desirable growth than we can possibly get here. For example, I took a little shoot from a Heart cherry tree two years ago, and searched around my premises for the poorest, hardest place I could find to set it. I finally concluded to set it directly under the shade of the Catarobe vine, and the adjacent buildings which I have already described. I dug out a small hole with the pick-axe and spade, and put it in—determined to have at least one cherry tree of slow, healthy growth, if possible. I have just been out and measured the amount of limb that tree so situated has made. I find it to be over ninety feet in all the limbs, with a present circumference of five inches at the ground. It is still, however, hardy and doing well, and does not need barking, and probably if not trimmed too high never will; as indeed, perhaps, none of them in that case would. But I have not another place on my premises where I could get as slow a growth again; so that a *sufficiently slow growth* in some varieties with us seems to be impracticable. I am however informed by a gentleman, from an older county south of this, that their cherry trees at first all died down as ours do, and the farmers gave them up for lost. A crop of shoots, however, came up all around from the roots. In some cases they let these grow up into thickets as thick as they could stand, by sheer neglect, because they considered them worthless, and did not care to take the trouble to exterminate them. Now mark; he says some of these thickets have grown into large trees, bear fine fruit, and *stand the climate perfectly well*. Taking my hint from this fact, I have begun to set

cherry trees in thickets from two to four feet apart, with what success time alone can show.

Again, sometime since, Professor ADAMS called my attention to a row of poplar trees, standing on the west side of the public square in this town. These trees were set out as shade trees some six or eight years since; and at the time, were enclosed for some ten feet above the ground with peeled hickory bark to keep horses from gnawing them. The bark encasement was taken from a tree considerably larger than the poplars at that time; but the latter have since outgrown this surrounding bark and burst it open. Now on all the parts enclosed and shaded by the hickory case or sheath, these poplars have passed from a smooth to a rough barked tree, while immediately above the case they have not burst their corticle, but are still smooth barked poplars. Moreover, their circumference just below the top of the sheath, is actually from four to six inches greater than a few inches above,—causing a bulge in the trunk at that point, as in the case of the peeled cherry trees. Here is then another fact, which should be noted, and from which the inevitable inference is plain: even poplars do not love to be corsetted and scalded in our hot suns; and NATURE here always shades the trunk entirely, when allowed to have her own way.

One fact more, (which must stand as a sample of a multitude of the same class,) and I have done, for this time. A friend of mine on a certain day (spring before last,) went to one nursery and purchased *sixty root-grafted* apple trees, and then procured *one hundred more, grafted on whole seedling roots*, from another nursery. The next morning he went to a third nursery and purchased *sixty more trees, budded near the ground*. All the trees were taken fresh

from the ground, in perfectly good order. He prepared the same patch of ground, and set them all out promiscuously, according to their kinds of fruit, the next day. They were all treated exactly alike; and trees of the same kind of fruit from each of the different nurseries were placed in the same rows and marked. Now of the sixty root-grafted trees, only six are alive; of the sixty budded trees, only some five or six are dead; while of the one hundred, grafted on seedling roots, *not one has died*. Such facts might be cited almost indefinitely from the counties around here; and I am credibly informed, that in some parts of Indiana, trees made by root-grafting are dying off by scores, while their older seedling orchards stand in the same neighborhoods perfectly well.

But I presume, from the general tone of your correspondents, similar facts are unknown in their vicinities; and it may seem quite strange to them that they should occur here. But all I can say about it is, they will do so hereabouts, in spite of all theories and all assertions to the contrary. People may talk as they will with us out here; this is a free country, and the trees will have their own way after all. I know not whether any mere theory which I may have broached is the true theory or not, touching the solution of the above and similar facts. I will not pretend to dispute either for or against any theory with gentlemen who have grown grey in the practical service and science of horticulture. I profess to be a mere tyro in the art, though greatly interested in it, and desirous of noting, and, as far as I can, aiding, in the true solution of such facts as come under my notice in the locality where I am placed. And, as you very justly intimated in a former number, no theory, whether false or true, is good for anything further

than it serves to stimulate to the accurate notice and correct appreciation of facts. But I am always too long. And tendering you, as ever, my most hearty good wishes, I remain, respectfully yours,

J. B. TURNER.

Illinois College Dec. 25, 1849.

P. S. I must, after all, add that the gentleman above named, T. CHAMBERLAIN, Esq., invited me last August to examine an apple tree, which he had at that time full of the most beautiful ripe fruit. He calls it the Orange apple, from its yellowish colour and round shape. It is ripe about the first of August; and he says it has elsewhere been called the "Horse," or "House," or "Hoose apple." But I think it is not the common Horse apple of the south, from descriptions I have seen of the latter. This Orange apple answers well

in general to the common descriptions of the Fall Pippin, except it is rather larger, and more yellowish, and is ripe much earlier. It is quite as much better than our best early apples, as the Newtown Pippin is better than the third class of winter apples. Can any of your readers tell us its proper name? It seems to be known only in a few locations in the south and west; but all who have ever seen it, I find, speak of it with the greatest enthusiasm, and justly, too. The tree is a good bearer, and a fine regular grower; and at the time I saw it, about the tenth of August, its load of large, fair, yellow fruit reminded me of nothing so much as of the fabled apples of Hesperides. I had at the time plenty of apples in my house; but threw them all aside and bought of him as long as his lasted; his were so much better.

A FEW WORDS ABOUT SICKLY PEAR TREES.

BY AN OLD DIGGER.

I FIND, on looking about my garden, talking with fruit-growers and looking through the pages of your paper, that it is an undeniable fact that a good deal more difficulty is experienced in cultivating the pear than any other of the popular fruit trees.

The time was, indeed, when pear trees—great, strong, lofty trees, too, though the fruit was rather *chokey*—grew around every farm-house, bore cart-loads of fruit annually, and were looked upon as able to "stand more hard knocks" than even an apple tree. Longer lived the pear tree certainly is by nature; and as standing venerable proofs of this, I refer you to the Endicott pear tree, near Salem, and the Stuyvesant pear tree, in New-York. As both of these trees are above two centuries old—by

veritable records—it is not worth while to spend time in proving that the pear is, naturally, a long lived tree.

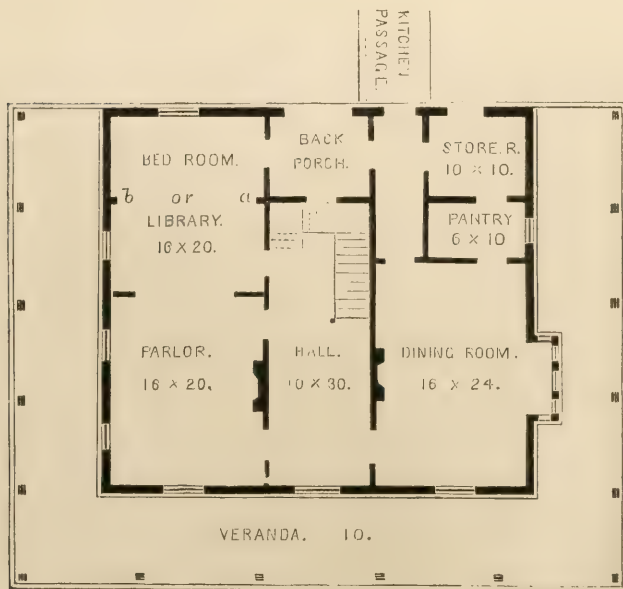
But, in fact, natural pear trees, that is to say, the chance seedlings of the common pear, that spring up by the sides of lanes and fences, are as hardy and as great bearers now as they ever were. What then is the matter with all the sorts whose tenderness our fruit-growers groan over?

Is it not owing to the delicate constitutions which these foreign varieties, bred in a more regular climate, have, and which makes them peculiarly alive to our great excesses of heat and cold?

Is it not true, in rich and deep soils, where delicate trees are forced into a sappy condition, when the limbs are too full of



A SOUTHERN COTTAGE VILLA



PRINCIPAL FLOOR.

juices, upon which the frost or sun acts readily, that blight and other diseases of the pear are most frequent?

Is it not true that foreign varieties of pear, especially those originated within the last few years, are far more delicate and liable to disease than native sorts of equal merit, raised from seed in this country?

I throw out these queries to set some of your ingenious and practical correspondents, in various parts of the country, at work to furnish materials for answers that will settle some knotty points. For my own part, I have made up my mind that to grow fine pears for profit, we must, in order to save the trees and keep them sound, keep the trunks and leading branches covered with a light *sheathing of straw* all the year round. This guards the bark of the principal parts of the tree from all excesses of heat and cold. I have experimented for four years past with this plan of sheathing, and can say that I am quite satisfied with

it. Among three dozen pear trees now just come into bearing, one-third of them have been kept in straw, and not a single one of that dozen has suffered by blight or other disease; while of the remaining two dozen, nearly one-half have dropped off, and been dug up and consigned to the brush heap. Some careless farmer or gardener—fond of *shirking* everything that he can—will say, “but who can take the trouble to straw all his pear trees?”

You can, is my reply. Try it on half a dozen trees, and keep an account of the time and labor spent in it. It will amount to a few cents per tree,—not the price of half a peck of Virgalieus in the York market. And if you can gather pears by the cartload—for no fruit ripens better, or has a higher flavor than the pear in this climate—if, I say, you can gather pears every year by the cartload, for only the trouble of strawing the trees, then the blight take you if you are too lazy to do it!

AN OLD DIGGER.

DESIGN FOR A SOUTHERN COUNTRY HOUSE.

WE give the sketch of the elevation and plan of a country house, of moderate size, suitable for the southern states, at the suggestion of a number of southern readers, who do not find our northern dwellings adapted to their wants.

In the south, airy apartments, spacious, rather than numerous, shadowy roofs, and long verandas are indispensable. A detached kitchen, situated 20, 30 or more yards from the house is another universal feature. This kitchen contains servants' bed-rooms above,—only such servants sleeping in the dwelling as are personal attendants. For this reason, there is not so

much room required for servants in a southern country house as in one at the north, though more servants are employed and more accommodation is needed in the buildings especially devoted to their use; for the very good reason, that it requires twice as many negroes to perform the domestic drudgery of an establishment at the south as there would be needed in a residence of the same size, and for the same style of living at the north.

In the accompanying design (see FRONTISPIECE,) we have chosen a modification of the bracketted Venetian style, as best adapted, by its broad projecting eaves (with

three feet of projection,) and its ample veranda, for most parts of the south. There is a double value there, in these wide spreading roofs; first, in the greater coolness of the walls or sides of a building, which are protected by their shade from the direct rays of the sun during all the hottest part of the day; and second, in the good effect architecturally, produced by the strong contrasts of light and shadow by such projections.

In the plan (frontispiece,) of this house, we have practiced a very simple species of contrivance, by which the size of the first floor is considerably increased, so that a villa-like accommodation is obtained in a house only about 30 by 42 in the clear measurement. This is done by building the veranda of the same height as the principal story (12 or 13 feet,) and enclosing that part of it which is in the rear.

By this means we get a library 16 by 20, (which would otherwise be but 16 by 10 feet.) The letters *a b*, show the line between the house and enclosed veranda; and the opening here should be covered by a strong gird or beam, to support the wall above, and if necessary brackets may be placed at *a b*.

In the rear of the hall is a back porch,—a part of the veranda that may be left open. Adjoining it is an entry or passage way, five feet wide, for the servants to pass from the dining-room to the detached kitchen, without the necessity of entering the back porch or hall. Along side of this entry is a large store-room (also part of the enclosed veranda,) 10 by 10 feet. This is the larder and pastry room, under the care of the mistress of the house; and adjoining it and the dining-room, is a pantry and China closet.

The dining-room is a spacious and airy apartment, 16 by 24 feet, with a bay win-

dow on the side, opening down to the veranda. The hall is 10 feet wide; and the parlor and library, on the opposite side, communicate by sliding doors. A single fire-place would be sufficient for both of these rooms at the south. In some families, where there is an invalid, it might be desirable to make the library a bed-room.

The second floor, fig. 98, shows five good bed-rooms.

We have shown the covered passage to the kitchen, and part of the kitchen itself, in our sketch of the front elevation of the house, merely to convey an idea of their effect; though the position of these on the

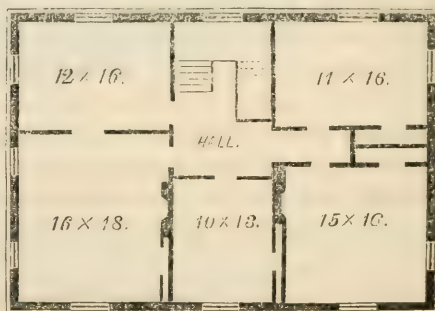


Fig. 98.—Second Floor.

plan is in the rear, and not on the side of the house. This, however, is a mere matter of locality; as the kitchen and other out-buildings will, of course, be placed on the side offering the greatest facilities for their uses, and, at the same time, keeping them most in the back ground.

Every house at the south should have a *ventilator* on the roof, connected with air-ducts, leading to the cellar. This would maintain a circulation from the lowest to the highest part of the dwelling, and prevent the accumulation of hot air under the roof. *Emerson's ventilator*, now extensively used about Boston, is the best yet known in this country, and may be had both in

Boston and New-York. A very simple and excellent mode, where this is not at hand, is to have the roof of the house pinad in its highest part. Over and around this opening, build a ventilator, by erecting a wooden frame about four feet square and three or four feet high, with a roof corresponding with that of the house, and sides composed of Venetian blinds. Into this ventilator would rise all the air of the garret, as it became heated. But in order to maintain a *circulation* in still mid-summer weather, when the air outside and that inside are nearly the same temperature, there should be two or three air-ducts, or canals, leading from the garret to the cellar, or space under the house. These may be mere wooden boxes, or hollow spaces, passing up in the walls of the house, or like flues in the stacks of chimneys, or through closets from one story to the other. In these passages the fresh and cool air will constantly rise, to replace that which

becomes heated and passes off through the ventilator at the top of the house.

There should also be an aperture through the ceiling of the hall of the second or chamber story, directly under the ventilator of the roof. Through this the heated air in the upper hall will pass off; and thus a more agreeable temperature will be maintained in both stories.

This house, which gives all the accommodation of many villas at the north, could be built at the south for half their cost,—owing partly to the manner in which the accommodation of the house is increased by enclosing the veranda, and partly to the fact that no filling-in or extra warmth in the wall or frame is required in the southern states.

Comparatively little attention has been paid to tasteful and convenient domestic architecture at the south, and we shall be glad to receive criticisms and suggestions from our southern readers.

THE KUM-QUAT—A HARDY, DWARF, ORANGE TREE.

THE orange tree, in all its varieties, has hitherto been an exclusively southern luxury,—refusing to grow with us, excepting with protection in winter.

Here is a little dwarf tree, however, (*Citrus japonica*,) brought by Mr. FORTUNE, the collector of the London Horticultural Society from Japan, which will, no doubt, turn out to be quite as hardy as the Wistaria and the Tree Pæony, and will, therefore, be a novelty highly useful and ornamental in our gardens and shrubberies. The fruit, though too acid for the palate, makes a capital preserve; and the juice will doubtless be useful in the same way as that of the lime or lemon.

We have a small tree growing in our own grounds, which was kindly sent us by Mr. RANCH, exotic florist, near Greenwood Cemetery, Brooklyn. We believe Mr. BUIST, of Philadelphia, and probably other nurserymen, now have it for sale, so that amateurs can make trial of it in various parts of the country. There can be no doubt that it will stand the winter without protection wherever that now rather familiar shrub—the evergreen Japan *Euonymus*—has proved hardy.

We quote the following remarks, respecting this valuable little fruit shrub, from Mr. FORTUNE'S own account:*

* Journal London Hort. Society, iii, p. 239.

"This species, long known to botanists, and to those who have visited Canton, was one of the plants which Mr. REEVES recommended me to send home to the horticultural society. In the south of China great quantities of it are grown in pots; and hence it is met as a common plant in the well known nursery gardens at Fa-tee. It is, however, evidently of a more northern origin; for I met with numerous groves of it on the island of Chusan, and elsewhere in that part of China, where it grew in far greater perfection than it does about Canton. It seems also to be largely cultivated in Japan, where it has been seen and described by Japanese travellers,—such as THOMBERG and SIEBOLDT.

"The Kum-quat groves of Chusan are formed on the sides of the lower hills, in those situations where the tea-shrub (*Thea viridis*,) flourishes. The plants are arranged in rows, about four feet apart, and do not attain a much larger size than about six feet in height; from three to six feet is the size they are usually seen. A small kind of orange is also found in these groves; but good oranges, such as those known in the south, as 'Mandarins,' and 'Coolies,' are entirely unknown; indeed, the Chusan winters would be far too cold for them. This shows, therefore, that the Kum-quat is of a much hardier nature than any of the plants belonging to the orange tribe with which we are acquainted in gardens.

"The fruit ripens late in autumn,—being then about the size of a large oval gooseberry, having a sweet rind, and a sharp acid pulp. It is largely used by the Chinese as a preserve, and very frequently finds its way to England as presents to those who have friends in China. Preserved in sugar, according to the Chinese method, it is excellent.

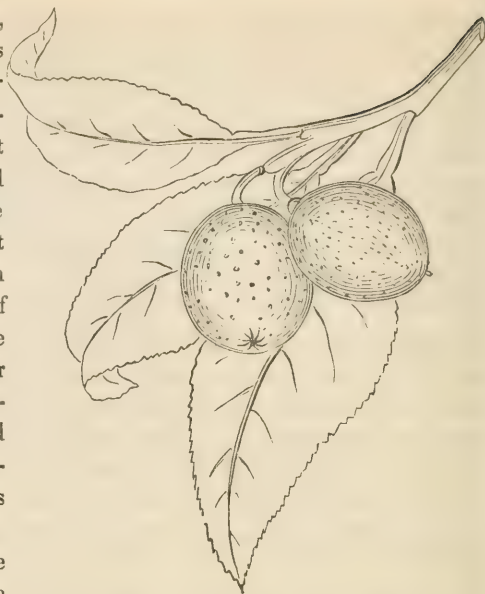


Fig. 99.—The Kum-quat, or little Japanese Orange.

"In China, the Kum-quat is propagated by grafting on a prickly wild species of *Citrus*, which seems of a more hardy nature than the Kum-quat itself. This fact should be borne in mind when the plant is increased in this country; otherwise we shall have a comparatively hardy plant growing on a tender one."*

Mr. FORTUNE further remarks that the Kum-quat groves in the island of Chusan, (a cold part of China,) were among the prettiest sights that came under his notice; particularly when the fruit was ripe, hanging in profusion over the bushes, and contrasting so well with the clear green foliage.

Dr. LINDLEY adds, that "this plant, as cultivated in the London Hort. Society's garden, resembles a dwarf, small-flowered orange tree, with thinner, smaller, and narrower leaves. Its fruit is as Mr. FOR-

* We commend this to the attention of nurserymen here. If the Kum-quat is ever so hardy, it will not stand if budded or grafted on the common orange, or lemon stock. It will be safest to raise it from cuttings. Ed.

TUNE describes it; but its bright orange rind is not very fragrant until it is cut or scraped, when it becomes highly agreeable. The skin is not much thicker than that of a gooseberry, and contains five cells, filled with very acid pulp, resembling that of the Lime. It will no doubt make an excellent preserve."

ON PLANT POTTING.

BY WILLIAM SAUNDERS, NEW-HAVEN, CT.

PREPARING THE SOIL.—Without entering into a detailed inquiry upon the relation that exists between the soil and its different vegetable productions, or attempting to enumerate the many different combinations of soils that have been recommended for various plants, I at once remark, that for potting purposes, the physical texture of the soil is of more importance than its chemical constitution. I am well aware of the many very widely different opinions that have been held on this point, even among scientific men; but as "facts are stubborn things," I will confine myself to what I have found in practice to be most suitable.

The organic part of plants generally amounts to about nine-tenths of their whole bulk; and as this matter is chiefly produced from, and through the influence of, atmospheric air and water, and these being largely extracted by their roots as well as by their leaves, it points to the propriety of having the soil in a condition to allow an unimpeded access of these gases to the roots of plants.*

For some years I have used nothing but *turfy loam* for the various purposes of potting, suiting it to different plants by the addition of charcoal, pebbles, and sand,—being guided in the proportion of these latter substances by the nature of the roots

and general habit of growth; and as by the judicious application of manure water, when and where requisite, I obtain, through simpler means, all the advantages that can be derived by the use of the various mixtures recommended under the name of composts. I therefore look upon these, in many cases, minute proportionals of different soils and manures, as being altogether unnecessary.

There is by far too little importance attached to the aeration of soils; by bringing them in contact with air both the mineral and vegetable ingredients are decomposed, their latent powers of action drawn out, and rendered directly available for the purposes of vegetation. Hence the advantages of trenching and subsoiling, the freezing and pulverising of soils; and though it is impossible, in the present state of knowledge, to trace all the operations of the various agents that are daily producing changes in the animal, vegetable, and mineral systems, we know that in the absence of air and moisture, substances may remain unchanged; but under their combined influence, the most imperishable must ultimately succumb.

In collecting soil for potting, I prefer turves cut from a dry pasture, secured in dry weather, and piled in a heap until wanted for use. If these have been procured from soil of a retentive, adhesive nature, it can be corrected by the addition of

* At page 273 of the present volume, a correspondent infers that air is useless at the roots of plants. How he came to make a statement so diametrically opposed to the investigations of scientific, and the experience of practical men, I am at a loss to imagine. Surely not by the analogical reasoning he there indulges in.

sand, charcoal, &c. Charcoal is both a chemical and a mechanical agent. Its value as a manure is derived from its property of absorbing moisture and various gases—particularly ammonia. A celebrated chemist says—"charcoal is capable of being used with advantage in abstracting the ammoniacal and other salts, which gives its value to the liquid of farm-yards. Experiment has shown, that when filtered through a bed of charcoal the liquid escapes without colour, and almost without taste, while the charcoal is itself converted into fertilizing manure." Such is the theory of its action; and its practical efficacy has been sufficiently proved to rank it as a valuable ingredient in soils.

The heap should be frequently turned over, to expose every part of it to the influence of the weather, and preserve it in a healthy state; and that it may be of easy access during winter, it should be kept under cover, and always used in as rough a state as the size of the pots will conveniently allow.

PREPARING THE POTS.—In the first place, these should be thoroughly clean and dry; and as complete and efficient drainage is indispensable, the material used for this purpose should be in quantity corresponding to the size of the pot. Broken pots, or *crocks*, as they are generally termed, are most in use; but charcoal, bones, bricks—broken up—or small stones, will answer this purpose equally as well. When the pots are large, a good system is to invert a small pot in the bottom, filling the space between it and the side of the pot with the drainage. In ordinary cases, a large piece of crock is laid over the hole in the bottom of the pot. This should be placed with its rounded or convex side downwards, to prevent the ingress of insects or worms. A still better method is to cover it with a

small piece of perforated zinc, as it offers no resistance to the egress of water, and effectually prevents any intruders. Above these, place a sufficient quantity of the broken material, and cover the whole with a layer of moss, or the roughest parts of the soil. Moss is preferable, as it parts freely with superabundant moisture, still holding in suspension a sufficient portion to be of service to the roots, and of which they will gladly avail themselves in any emergency.

It was a long established and deeply rooted opinion, that plants could not be cultivated with any degree of success in hard burned (or glazed) pots; and even yet, we occasionally meet with some who tenaciously cling to the idea. The objection to them is, that the soil next the pot is always in a cold, damp state, and apt to destroy the roots. That this would be the case when the drainage is imperfect, the soil not properly prepared, and water given in excess, might be expected. And as a porous pot, by absorbing and giving off moisture, renders this unskilful management less apparent, it is preferred. But this is no argument in its favor. When that indefatigable horticulturist, Mr. BECK, Isleworth, England, first brought his slate pots into notice, they met with a very unfavorable reception. But when he subsequently carried off prizes at the London horticultural exhibitions, with plants cultivated in these pots, unsuccessful competitors were fain to acknowledge the advantages which he possessed; and what they before condemned, they now looked upon as a necessary accompaniment of success. The advantages that slate and hard burned pots have over those that are soft and porous, are, that the soil is kept equally moist, and less water is requisite; as porous pots rapidly absorb the moisture from the soil, especially in hot, dry weather.

It would be a decided improvement upon

the pots in general use if they were made three times their usual thickness. As we frequently find them, they are nothing but a mere shell. In such pots, the roots of plants are injuriously acted upon by scorching sun and parching winds; whereas, if they were of a thicker substance, the roots would not only be uninjured by the sun, but the gentle heat then imparted would be productive of good.

PREPARING THE PLANTS.—A plant should not be potted when it is very dry, nor when soaked with wet. If in the former case, it is very likely to remain so. As the water will pass through the fresh soil without penetrating into the old ball of earth; and if in the latter state, it is not in a very good condition to be surrounded with an additional layer of earth. When the roots are thickly interwoven they should be carefully disengaged, that they may be spread out into the fresh soil; but in shifting young, healthy, growing plants, with the roots just reaching the side of the pot, they should not be disturbed, as it is important to preserve the smaller fibres, upon whose action the health of the plant chiefly depends.

I have seen some persons reduce the ball of earth, by cutting off all the matted roots, with perhaps an inch of soil,—and after paring it into a *nice* shape, and depriving the plant of all its most valuable spongi-oles, place it into a pot perhaps not much larger than the one it previously occupied; and after giving it a daily quantum of water, with the additional care of shading and syringing, it was considered a matter of astonishment that it did not grow. It is just in such cases as this that complaints are likely to be raised against hard burned pots,—want of proper soil, and similar excuses; as few persons wish it to be understood that there is any blame attachable to them, or any deficiency in their system of

management. Such practice is no doubt of less frequent occurrence than formerly; and I would not allude to it were I not aware that it may occasionally be met with where something better might be expected.

In cases when the plant is unhealthy, and the roots in unfavorable soil, or in repotting deciduous plants that have been kept in a state of rest during winter, the ball of earth should be broken up and nearly all shaken out, that the young roots may at once enter the fresh soil.

It is also necessary to examine the stem, in order to guard against deep planting. The ordinary advice—"Never plant deeper than before," is well enough, *provided it was not deep planted before*. But this is too frequently the case to be passed over in this way; and when plants are raised from cuttings, they must necessarily be deeper planted when young than is consistent with their future welfare; the soil should be cleared away until the base of the stem is level with the surface. I have seen valuable plants lost through neglect in this respect, even after they had attained considerable size.

SHIFTING THE PLANTS.—When the large, or one-shift system of potting was first introduced, it was confidently and zealously advocated by some, while others as strenuously opposed it. It is generally the lot of all improvement to encounter opposition. And although, in some instances, the advocates of this system rather overrated its merits, yet many opposed it without giving it a trial, and others failed for want of sufficient knowledge to carry out the principle. What is meant by the one-shift system is simply this,—that a plant may be taken from the smallest sized pot, or even out of the cutting pot, and placed at once into one of the largest size, that from its nature it is likely to occupy,—the advanta-

ges being a larger and speedier development than when subjected to the many checks consequent upon the progressive, or oft-shift system; that is, shifting from a 3 to a 4, from a 4 to a 5-inch pot, and so on, progressively, as the plant increases in size. That this method may be adopted with great advantage in the case of robust, free growing plants, is very evident; and its greatest advocates never contended that it was equally applicable in all cases. In small green-houses, nothing would be more inconsistent than having a dozen large plants to the exclusion of a hundred smaller ones of different varieties. The unsightliness of small plants occupying such large pots has also been urged as an objection.

Another objection that has been raised against placing a small plant in a large body of earth is, that owing to atmospherical attraction the roots of plants have a natural tendency to proceed in a horizontal direction, until they reach the side of the pot, where they will soon ramify, and form an interwoven mass, enclosing a large portion of soil, comparatively free of roots, which, by repeated waterings, is soon rendered sodden and unfit for the few roots it may contain. This would certainly be a weighty objection if such was in reality the case; and undoubtedly such would be the result if the soil was very close and compact; but this objection has little weight when the pots are well drained, the soil lumpy and well intermixed with pebbles, charcoal, &c.—the whole mass of soil being thus rendered very open, water percolates freely, and air and heat immediately take its place; atmospheric attraction being equally balanced, lateral extension of the roots is checked, and they ramify with regularity throughout the whole.

Whatever may be the advantages of this system of potting, it can never be generally

adopted. Every person's circumstances will not admit of it. Neither would I advise any but those who are thoroughly acquainted with the management and requirements of plants, to attempt cultivating any of the small rooted, hard wooded plants on this mode; as it requires great care in preparing and arranging the soil for such plants as *Epacris*, *Erica*, *Leschenaultias*, *Boroni*as, &c., as well as the exercise of considerable judgment in their future management; but for soft, free growing plants, as *Geraniums*, *Calceolarias*, *Brugmansias*, *Cinerarias*, *Fuchsias*, and such like, it is the best that can be adopted; and when systematically performed, it presents a great advantage in obtaining fine specimens in a comparatively short time.

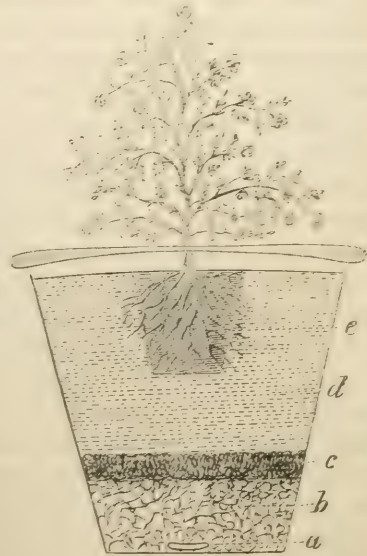


Fig. 100.

It is necessary, especially in potting hard wooded plants, to make the soil moderately firm. It should not, however, be *rammed*, but rather fitted in, spreading the roots into the fresh soil, finishing off with a level surface, and leaving sufficient space for watering. The above representation of a

plant, shifted from a 3 to an 8-inch pot, will render the operation more easily understood by those who require such information.

A, represents a large crock laid over the hole in the bottom. B, the layer of draining materials. C, layer of turf and rough

portions of the soil. D, soil in which the plant is potted. And E, the old ball of earth, the roots in which should be spread out in the fresh soil, as potting proceeds. The other parts will be easily understood.

WILLIAM SAUNDERS.

New-Haven, January 2, 1850.

REVIEW.

TRANSACTIONS OF THE NEW-YORK STATE AGRICULTURAL SOCIETY. *Vol. VIII—1848.*

HERE is an octavio of 975 pages, abounding with matter instructing to both practical farmers and scientific men. If the State Society's labors were limited to the production of such a volume as this annually, the institution would be entitled to the gratitude of all who are interested in agriculture, and we are glad to perceive that under the supervision of the worthy Secretary Mr. JOHNSON, the Transactions steadily increase in value every year.

The State Agricultural Society however is an institution of greater value and importance to our community than what arises from the publication of these annual records of farming skill and science. It is becoming a centre point, a nucleus around which the intelligence of the farming class is beginning rapidly to crystalize, and will speedily become a powerful instrument to elevate and improve the condition of our agricultural community. The early discussions touching the Agricultural College, which took place in the Society's rooms at Albany, were the first definite expressions of what has become a great public sentiment now—that the farmers of New-York demand a substantial agricultural education. Of the more direct practical good, which results from the application by a society of some system and order in farming economy, some

idea may be gathered from remarks like the following, made by the secretary of the society at one of the discussions.

Mr. JOHNSON here alluded to the great good that had resulted to the American farmer from the accuracy in relation to the measurement and return of the crops, which the society had in later years insisted upon. It led him to watch closely the details of his farming. Many of the counties had, in their local society operations, attained a degree of accuracy so complete, that one set of papers would answer both for the State Society and for them, while others were yet lamentably loose and deficient. A gentleman in Massachusetts had offered the use of his farm to any one who would raise 60 bushels of Indian corn to the acre; he doubting that it could be grown. One of our farmers had produced the most authentic proofs of his having raised 123½ bushels to the acre, in Oneida county. In Jefferson county 110 bushels of oats to the acre, of 41 lbs. to the bushel, had been raised the past season. In Oneida county, one field of about ten acres had yielded 112½ bushels of oats to the acre, over the entire field, some years since. "If," adds the secretary, very pertinently, "the proper knowledge of culture were universally made known, would our farmers be content with raising 20 bushels of corn to the acre?"

One of the most interesting papers in

this volume, is the able address of the President J. A. KING, Esq., before the Society of Queens county, Long Island, where Mr. KING resides. It is valuable on account of the statistics of agricultural value and production employed in that part of Long Island, which conclusively prove that farming may be carried on under circumstances absolutely requiring the employment of capital, and that capital may be well employed in developing the resources of the soil. In Queens County, according to Mr. KING, with a population of 32,000, there are 125,636 acres of improved land, (in grain 46,906, in meadow and pasture 73,710 acres) and the total value of the agricultural products is \$1,764,604. The nett receipt gives a profit of 10 per cent on \$8,000,000 of agricultural capital, or \$7, nett per acre, on 125,000 acres of improved land, and \$17 per acre on the 50,000 acres of arable land. This is worthy of the consideration of those who in the less fertile parts of the State (for Long Island is by no means naturally fertile) consider agriculture a "poor business." The answer to the inquiry regarding the success of Queens county farmers, we more than suspect lies in the fact disclosed by Mr. KING, that they are mostly "small farmers"—that is to say, they are not made poor by owning large farms, as "the average size of the farms will scarcely reach 80 acres." And the *manure* that is so liberally applied—what do our readers think these "small farmers" of Queens county pay for manure in a year? No less a sum than \$227,000, to say nothing of that made upon the land. Small farms,

highly manured, and well cultivated—that is the policy of all farmers near large cities.

It is impossible for us to notice in any extended manner the contents of this volume of Transactions. We cannot however wholly pass over the admirable and very complete prize essay* on Indian corn by Mr. SALISBURY, giving an accurate analysis of the composition of every part of the plant, during all stages of its growth, and furnishing data for carrying its culture to perfection in all soils. Another article by Dr. LEE, on the *Philosophy of Tillage* has already been copied into various agricultural papers, and is full of plain suggestions on the science of farming, to those who wish to learn; and a third on Draining, by JOHN DELAFIELD, Esq., the successful farmer of Oaklands, is full of clear and sensible directions for performing this important step in the amelioration of wet lands.

We must not forget an excellent report on Fruits, by Dr. WENDELL of Albany, accompanied with outlines of select varieties recommended for general cultivation; among which we notice the Autumn Strawberry and Mother apples, two very excellent and comparatively new sorts.

This volume is printed by the State, and forty copies are sent to every County Society, for distribution. A vast and rich field is still before the New York State Society, and we are glad to believe from annual testimony like this volume, that the executive committee busy themselves about the work in good earnest.

* For which the Society's premium of \$300 was awarded.

FOREIGN NOTICES.

THE MANETTII ROSE STOCK.—The following letter from Mr. Appleby, of York, will perhaps save you a little labor; it is all true.

"When you were here, in September last, you requested me to send you an account of my success with the *Rosa Manettii* as a stock for roses generally. I got a few (I believe about 20) from you about four years ago, and having great faith in what you said respecting its capabilities, I was determined to give it a fair trial, and accordingly I endeavored to make the most of it. I planted them out as stools, and the following winter I took the crop of cuttings and planted them in the usual manner, and I am not aware that I lost one of them. Those I also planted out as stools, and the crop of cuttings this time was planted in rows 18 inches apart and 6 inches in the row. This was in the month of March, 1847, and in August following they were all fit for budding. I say all, because I do not think that ten in a hundred died, although they were fully exposed to the weather in an open quarter. Some of these were budded as late as the last week in September, and still they took well generally. They broke freely in the spring following, and by the autumn many of them were as high as myself, which quite delighted me, for I had never seen anything in rose culture like them. I now valued *Manettii* cuttings like gold, and I ordered my men not to throw away an inch that was likely to make a plant. In the spring of 1848 I was enabled to make a tolerably good plantation of them; and although they were planted late (I believe in the beginning of April,) and the season set in dry, I nevertheless lost but few of them; but they were late in getting hold of the ground, and I did not get them budded until the end of September, still the buds took well as before, and you were yourself a witness to the progress they have made. There are many sorts amongst them that I could never get to thrive—in fact, scarcely to exist—upon the briar, that are now (in one year) from 3 to 4 feet high, and strong in proportion; and others (that are free growers) I have 6 feet high, with from 6 to 12 shoots from each bud. I will here enumerate a few sorts that are known to be bad growers upon the briar, and state the height which they have attained in one season. I will begin with *Eblouissante de la Queue* (Gal.) grafted in April last, now 3 feet high and strong; *Chateaubriand* (Damask,) also grafted at the same time, 3 feet; *Perle des Panaches* (Gal.) budded in September, 1848, now from 3 to 4 feet; *Tricolor de Flandres* (Gal.) budded same time, 3 to 4 feet; *Cynthia* (Gal.) budded same time, 2 feet; *La Cherie* (Damask,) budded same time, 2 feet; *Crimson Perpetual*, budded same time, 3

feet; *Rivers* (Laffay's,) same time, 4 feet, and many others of similar habit of growth have made the same progress. Then, of stronger growing sorts, the following (which were all budded in September, 1848,) are now respectively the heights quoted, viz.: *Bourbon* (Splendens,) 5 feet; *Comte Plater*, 6 feet, very strong; *Diane de Poitiers*, 6 feet; *Madame Stoltz*, 4 feet; *Dombrowski*, 5 feet; *Moss Laneii*, 5 feet, and some of them with a dozen shoots from one bud; *Do. Lanceol*, 4 feet; *Do. Louis Colet*, 4 feet; *Do. White Bath*, 4 feet; *Do. Blush*, 5 feet; *Do. Crimson*, 5 feet; *Do. Malvina*, 5 feet; *Do. Moussue Partout*, 5 feet; *Do. Do. Presque Partout*, 5 feet; *Do. Do. Metz*, 5 feet; *Comte de Flandres* (Gal.) and *Spotted Provence*, 5 feet; and in *Bourbons*, I have *Acidalie*, 3 to 4 feet; *Desgaches*, *Cardinal Fesch*, and *Madame Nerard*, *B. Queen*, and *Anne Beluse*, 2 feet; (these have been in bloom from last May, and are still covered with buds and bloom;) *Princesse Clementine*, *Emilie Courtier*, and several others are from 2 to 3 feet, and have been constantly in bloom all summer. In the *Hybrid Perpetuals* I have *Robin Hood*, 3 to 4 feet, and complete bushes; *Cornet*, 5 feet, very strong; *Sidonie*, 4 feet, and most robust. Every plant, if standing singly, would have the appearance (in size) of a large *Dahlia* plant at this season of the year. *Geant des Batailles* would have been quite as large had they not been cut down for buds. *Baronne Prevost*, *Mrs. Elliot*, *Duchess of Sutherland*, *La Reine*, *Madame Laffay*, *Wm. Jesse*, and several others are all similar plants; and *Jaune Desprez*, with some of the new *Prairie Roses* budded on this stock are 10 feet high in one season. The quarters of stocks which you saw (newly budded) when you were here in September, were all planted in March last, and are now from 3 to 4 feet high, and many of them an inch in circumference. They are budded with all the best sorts of roses; and I have especially endeavored to get those sorts worked upon them that have usually been bad growers (though some of the best roses,) and of which I could never get any stock, and I have no doubt but the result will be to my satisfaction. Another year I intend to bud those stocks with *Bourbons*, *Hybrid Perpetuals*, *Chinas*, &c., from 1 foot to 3 feet high, as dwarf standards; and I feel confident they will form beautiful heads. So confident am I of the superiority of the *Rosa Manettii* over every other stock for roses, that I shall never again plant any other, excepting for full sized standards. All other stocks, in my light sandy soil, throw out quantities of suckers, which are constantly robbing the bud of its support, to say nothing of the labor they occasion to get rid of them; but this

stock does nothing of the kind, unless a stray bud has been left on in dressing them, and then it merely comes up close to the stem, and is easily got rid of, as they never produce stolons or underground suckers. Another advantage is, that it thrives well on light soils, where the briar will not thrive at all; and this does away with all the objections that some parties have to worked roses, as all roses seem to do well alike on it—better, in fact, than upon their own roots, and no doubt they will bloom better. Besides, many roses on their own roots are constantly throwing a quantity of root suckers, and ultimately run wild. The above is a faithful account of my success with the *Rosa Manettii* as a stock for the generality of roses.*

The history of the *Manettii* stock is as follows: Some 12 or 15 years since a Signor Crivelli, of Como, attracted by an article in Loudon's "Gardeners' Magazine," wrote to me, offering to exchange some seedling Italian roses for choice named varieties. I sent him a small collection, and in return received from him some seedling roses; among them were *Rosa indica grandiflora*, and *Rosa indica Manettii*, two very small plants. These he described as being Hybrid China Roses, and most valuable roses for stocks in the dry climate of Italy. I soon found that although so much alike in habit as scarcely to be distinguished, they differed most materially in this respect; the former could only be propagated by layers, while of the latter every cutting grew. I gradually increased my stock of the latter, and now propagate from 40,000 to 50,000 annually. As with all new articles in gardening, I had to buy some experience, for I found if I grew them in a rich soil and budded them at the usual period, the buds rotted; they appeared to be drowned in the superabundance of sap. At last I saw it was necessary to plant them in poor soils, and bud them in September.

I presume this stock has found favor in America, for the last season I received an order from one house for 20,000. *Thos. Rivers Gardeners' Chronicle*.

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CALLA ÆTHIOPICA.—Here, in our fragery (a ditch so called,) this plant thrives amazingly under the most primitive mode of culture. Indeed the only secret connected with its most satisfactory growth, seems confined to the protection of its root from frost. The water in which it grows may be sheeted over for any ordinary length of time with ice of any reasonable thickness, so that it does not actually reach the root; moreover, it seems equally indifferent about the quality of the

water, or description of soil in which it is located. Some 20 years ago, I had four roots planted amongst some other aquatics in the above named ditch, with about 18 inches of water, supplied from an artesian bore,* in one end of which the mud was at least a foot deep; in this two of the roots were planted. The other end was bare gravel, so much so that we had to put stones upon the two other plants, by way of anchor, to keep them from drifting till they made a few roots to hold themselves to the bottom. Three of them are now large masses (the fourth was killed the first severe winter after planting, the water not being deep enough, about 8 inches, to keep the frost from the root,) and grow and flower equally free on the gravel and in the mud; and a splendid appearance they have from five to six weeks every May and June, having from 16 to 20 flowers on each plant. Since first planted they have been two or three times cut down to the surface of the water (foliage as well as flowers,) at the end of April or beginning of May, by frost, but without receiving a permanent injury. By the end of July they had completely covered their elegant leaves; and although the second crop of flowers was neither so large nor so plentiful as those cut off, still they made a very tolerable show in the August and September following, and contrasted finely with the very different habit of some yellow and white water-lilies, their neighbors; indeed, I think it might be worth while to cut one of the plants down every spring, for the sake of the autumn flower. *Richardia*, Nov. 20. —There are at present growing, in a small pond in the kitchen garden at Castle-hill, two plants of the *Æthiopian Calla*, which have been in their present situation for at least seven years. They were formerly standing in pots in the green-house, and were removed to their present situation in the same pots, merely sinking them to the bottom of the pond. I may observe that since they were removed to their present station they have increased to a large size, and at present stand at least 2½ feet above the water. They are occasionally cut down to the water's edge during winter, but never fail to produce abundant blooms during summer. The pond, in which gold fish are kept, is about 2½ feet deep, is formed inside of brick, and supplied with water from a jet in the centre. *A. Saul*. *Castle-hill*, Nov. 21. *Ibid*.

* This water coats everything with rust in an incredibly short time, and many plants we have occasionally watered with it have died. Indeed, one very dry summer, we thought to have our lawn greener than other people's, and used this water very freely; the consequence was that the grass died out in large patches, and yet these aquatics grow like willows in it. By the way, some weeping willows planted by it canker off in large branches.

DOMESTIC NOTICES.

VISITS TO NURSERY GREEN-HOUSES.—*Dear Sir*—There is not in my opinion, any thing will tend more to improve the cultivation of Green-House plants, than faithfully reporting what progress is making in the different establishments devoted to that purpose. I recently had the pleasure of calling at several such gardens, both in the city and vicinity of New York, on which occasion I made a few notes for the pleasure of your readers. The following are those to which I would call special attention, viz: Mr. BOLL's and Mr. MANTELL's, at Bloomingdale. Mr. LENOIR's, do. Mr. DUNLAP's, Harlem. Mr. PHELAN's, New York city, Mr. FLOY's, Harlem, and the Messrs. HOGG's, near Yorkville.

Mr. BOLL's, is an extensive establishment, but limited to a few genera, of which the Camellias are his principal stock. There are two large houses devoted to this family, one containing large specimens; and flowering plants of every size; the second is principally filled with small plants; in a third I noticed a splendid display of *Daphne odorata*, and *Rubra*, a great show of common Chinese Primrose, Otaheite Orange, and several plants of *Araucaria imbricata*, from 12 to 18 inches high. There are two large Rose-Houses, in one of which the plants are planted out in the borders, and the other well stocked with the newest and latest kinds, among which I noticed a quantity of the pretty double *Spiræa prunifolia*, showing its pure white blossoms.

Mr. MANTELL's. I took but a passing glance at the collection here. There is a fine Rose-House, showing a tolerable display of buds; the front border, in which is planted a single line of roses, is 3 feet wide, passage about 18 inches wide; and 15 inches lower than the level of the borders; back border 9 or 10 feet wide, and the roses planted out as in the front; a line of Mignonne is planted to the right and left of the gangway, and is growing luxuriantly, but showing no flowers in consequence of its being 5 or 6 feet from the glass. This place can justly boast of as fine a conservatory, as I have seen for some time past. It is span-roofed, and about 170 feet long, well adapted to grow the choicest productions of any climate. One half of this beautiful structure is occupied with Otaheite oranges. They look nice in fruit, and may fetch a tolerable price. Still is it not a pity that this fine structure should be filled with plants that might be wintered in a cellar? The remainder of the house is occupied with a miscellaneous collection, among which I noticed some specimens of *Polygalis*, and two (once) beautiful specimens of *Araucaria Braziliæna*, that would be a credit to the southern forests, dwindling in decay. I am sorry I was deprived

the pleasure of transmitting further details of this fine house. Your readers may smile when I tell them, that no sooner did Mr. MANTELL's gardener see me taking notes, than he desired me to leave the premises. If this is Mr. MANTELL's special arrangements, I must say it does him no great credit.

Mr. LENOIR's, though small, is interesting.—There is two good houses, one mostly occupied with Heliotrope all in pots, arranged on the stage very near the glass, and in beautiful bloom. The second house is recently built, and well filled with a miscellaneous collection, consisting of Camellias, Gardenias, Metrosideros, Daphnes, Azaleas, &c., &c.

Mr. DUNLAP's, corner of the 8th avenue and 116th st., near Harlem. This is the most extensive that came under my observation; although not possessing the recent discoveries of modern botanists, it will not fail to awaken in every zealous connoisseur of plants, many a fond recollection of by-gone days. The glass here consists of two Rose-Houses, one Propagating-House, two large Conservatories, one Geranium-House, three large Houses, like pits, and an innumerable number of frames. One of those Rose-Houses, is really so deserving, that I cannot find words to do it half justice. It is span-roofed, and about 50 feet long; the pit is in 3 parts, of which the centre part is 7 feet wide. In this are planted three lines of Lamarque Roses, one line in the middle, and another at the right and left. This middle line is the glory of the house; it extends its branches in every direction, leaving the two side lines nearly worthless. The stem of one of these giant roses, measures $8\frac{1}{2}$ inches in circumference near the surface, and $4\frac{1}{2}$ at 4 feet from the ground. The others are of various sizes, nearly approaching these in magnitude. A passage of 18 inches wide, and 2 feet under the level of the borders, goes round the house. The side borders are three feet wide, in which are planted Lamarque and other roses, trained up the rafters, all growing vigorously and showing a profusion of bloom. The Propagating House, is 50 feet long, span-roofed, and heated with hot water. The plants here consist of small stove and warm green-house species. There is a large plant of *Bignonia venusta* trained the length of the roof, at one side. The conservatories are large and spacious. One occupied with a miscellaneous collection, the other with Camellias of various sizes. In the pits already alluded to, are Verbenas and Pinks, small roses, and numerous other half-hardy plants. Any attempt at referring to one-half the plants here would weary your readers, neither did my limited stay permit me to make note of them. I cannot take leave of Mr.

DUNLAP'S, without calling attention to his city establishment at 635 Broadway, which is a repository for every thing that is useful, curious and ornamental. Baskets, Stands, Vases, Pots, Glasses, and Horticultural Implements, vegetable and flower seeds, and after passing through a flock of warblers, we enter a spacious conservatory, where a neat pond and fountain, will first attract the eye. This pond is filled with gold fish of every size, and surrounded by large plants, one of them in particular is a fine specimen of *Eutassa (Araucaria) excelsa*, or Norfolk Island Pine, from 15 to 17 feet high, and a beautiful plant of *Cycas revoluta*, (sago palm.) To the left is a giant stem of agave Americana, that flowered some years ago. There are good specimens of *Azuleus*, *Camellias* and other fine plants in this spacious building.

The boquet trade, is the great article of profit to the New York florists, and to Mr. DUNLAP belongs the merit of commencing a new era in our horticultural improvements. Having paid no less than \$50 in premiums, (besides the usual price for flowers) to those gardeners who supplied the largest and best collection of flowers on the 31st of Dec. last,—advertisements having been inserted to throw the competition open to all commercial florists.

The premiums were awarded as follows, by Messrs. LODGE and HOPE, the boxes containing the flowers being numbered, and the names of the competitors laid aside.

First box, No. 5. 1st premium for greatest and best variety of flowers, to Mr. COLMAN, gardener to A. P. CUMINGS, Esq., Williamsburgh,	\$10,00
Second box, No. 10. 1st premium to Messrs. PHALEN and SONS, New York, for best and most perfect $\frac{3}{4}$ blown Camellias,	10,00
Third box, No. 3. 1st prize to Mr. D. BOLL, Bloomingdale, for 100 best roses,	10,00
Fourth box, No. 7. 2d prize, D. BOLL, Bloomingdale, for 13 Camellias,	5,00
Fifth box, No. 6. 2d prize, J. LODGE, Senior, Westchester, for 13 Camellias,	5,00
Sixth box, No. 4. 2d prize, Mr. COLMAN, for Camellias,	5,00
Seventh box, Nos. 5 and 4, 2d prize, JOHN PEEBLES, Williamsburgh,	5,00
Total	\$50,00

If our florists and amateurs were to form a committee, they might readily constitute a Horticultural Society, by which means suitable premiums could be given those who merit them for fruits, flowers and vegetables. This would be giving every person possessing a rood of ground, an opportunity to compete, and would greatly promote horticulture.

It is not a little remarkable that New-York, the largest city in the Union, has no Horticultural Society, though there are 30 or 40 such societies, in various parts of the United States. I am satisfied that our citizens, ladies and gentlemen, would wil-

lingly contribute to the encouragement of such shows, for the pleasure of seeing the many fine flowers, rare fruits, and choice vegetables that would be brought together on these interesting occasions, if some organization could be made, that would give to a Horticultural Society a popular character.

My remarks on the other nurseries, must be deferred till the next number. I am Sir, respectfully yours, M. C. Williamsburgh, N. Y.

NOTES ON FRUITS.—This country is deficient in first-rate late winter Apples, that will keep until summer apples ripen. One bushel of good table apples, in April, May and June, is worth at least two bushels, of those of equal quality, ripening in November, and from that to February. Early ripening winter fruit is wholly excluded from foreign markets, upon which the farmer now relies for a remunerating profit. Short as the passages now are to Europe, the West Indies, and other parts of the world, we can select but four or five kinds of apples that will keep sound to the end of the voyage to England. I have but little hope that we can ever add the Northern Spy to the number. With us it has no thrift and vigor, and gives little promise of productiveness. Long keeping is a very important point, and one in which our assortments are very deficient. Must we not look to the West and South for a further supply? If they have seedlings of good quality, that with them keep till March, the same raised in New England might be expected to keep till June; as our fall apples become winter apples, when raised in the north part of the State of Maine. In view of the premises, is it not desirable to obtain scions from Mr. SUMMER, of his apple, Ferdinand?—Also Mr. E. J. CAPELL'S Davis and Grindstone, both named in the Dec. No. of the Horticulturist?

Will the "Old Digger," or yourself, be pleased to account for the fact, that Bartlett Pears do not crack when grown on scions set into a half starved stock of the St. Germain or White Doyenne? or why a scion of the White Doyenne Pear, when put into a large, healthy stock, standing in good soil, with ten other kinds in the same tree, should be the only kind that bore fruit that did crack?

In describing the flavor of pears, has there not been an improper use of the word vinous? It is justly applied to the Brown Beurre, but most aptly to Gansill's Bergamotte. If in the place of vinous—the more appropriate terms, *astringent* and *acid* were employed—nice tastes would be less frequently offended, and enthusiastic beginners in fruit culture, might not so often have their ardour cooled by disappointment. I am truly yours, Stephen H. Smith, Smithfield, R. I. Jan. 15.

THE SECRETS OF NATURE.—DEAR SIR: Will the quotations from Liebig which you will find below, give us a key to the reasons why one fruit, growing on the same soil, in the same neighbor-

hood, is sweet and another acid, and why one fruit is juicy, and another dry; why one flower is fragrant, another offensive to the smell; why one herb is healing and another poisonous; why one is nutritious, and another without the nutrient quality; why the body of one vegetable structure is dense and hard, another loose and porous; why one will burn for hours in fire, and another consume in a moment; and why fruits and flowers put on an almost infinite variety of colors; and wherefore it is that the vegetable world assumes such a diversity of qualities, appearances and conditions. Yours, C. Smith. Newport, N. Y. Jan. 1850.

"A great many substances have been discovered among organic bodies, composed of the same elements, in the same relative proportions, and yet exhibiting physical and chemical properties perfectly distinct, one from another."

"A great class of bodies known as the volatile oils, differing widely from each other in their odor, in their medicinal effects, in their boiling point, in their specific gravity, &c., are exactly identical in composition—they contain the same elements, carbon and hydrogen in the same proportions."

"The ultimate atoms of bodies, do not penetrate each other; they are only arranged side by side with each other in a certain order, and the properties of the compound depend entirely upon this order. We may suppose that one atom combines with one atom of another element to form a compound atom, while in other bodies two and two, four and four, eight and eight, are united, so that in all such compounds, the amount per cent. of the elements are absolutely equal, and yet their physical and chemical properties, must be totally different, the constitution of each atom being peculiar in one body, consisting of two, in another of four, in the third of eight, and in a fourth of sixteen simple atoms."

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INTRODUCTION OF NEW PLANTS.—I have been engaged a day or two past in reading the correspondence of our early botanists, JOHN BARTRAM, and HUMPHREY MARSHALL, as recently published by Doctor DARLINGTON, and believe I entered somewhat into the feelings of the good, indefatigable and enthusiastic PETER COLLINSON, in his hopes of new plants and seeds to be obtained in the next autumnal excursion, and his disappointment when the beetle destroyed the butterflies, or when the rats fixed their habitation during the sea voyage in the box, to the entire destruction of the plants, and when again and again the ship arrived without some expected and ardently desired seeds or plants, or when having arrived it was found that their vitality had been destroyed in the passage. He in one letter gave notice that stocks continued to fall, and that he had thousands unemployed, which he did not know how to lay out—yet it was but a passing notice, and not repeated; the language is not earnest as for 'the sod of *Pyrola*,' or 'the wasp's nest built in

the bush.'" To minds fond of nature, this correspondence is extremely interesting, for although we consider the *Pyrola* and the wasp's nest as not very important, yet to citizens of the old world then, the discovery and acquisition of new and beautiful natural objects, were sources of pleasure and deep interest—and so they now remain to us; for as "westward the star of empire wends its way," hills rise o'er hills and alps o'er alps arise, and the difficulties and duties of the European Naturalists of the last century, have descended to their American brethren of the present, some of whom should step forward and perform for America what SLOANE, ELLIS, COLLINSON, and other worthies of their time, did for Britain, by introducing rare and newly discovered plants into this country. A wide field of labor of this kind is now opened, under very favorable circumstances, in introducing the vegetable productions of California, Oregon, Desert and Mexico, into the well settled part of the original United States. For this purpose we enjoy advantages at present, that will decrease hereafter. Thousands, perhaps tens of thousands of our citizens have within the past year, gone to Oregon, California or Mexico, by various routes, a part of them by crossing the Rocky Mountains.—Our friends who have thus left us are men of more than usual enterprise and energy, and many of them have more or less acquaintance with natural history; there are probably few neighborhoods if any, from which some person has not departed for the western side of the continent, and therefore most persons who have an extended acquaintance at home, are probably acquainted with one or more persons now in some of those places. Our friends who have left us, find upon their arrival there, many species of plants and animals which they had never seen before; these, whilst new to them, they will regard as worthy of notice here, and will be pleased to transmit to us as memorials of former friendship, or specimens of the productions of their new homes. But time and distance will dim their memory of home and us, and when the novelty of the objects around them shall have passed away, they will distrust our grateful reception of seeds or plants which to them have become common and of little or no value. In order to enjoy the advantages of our relative position, it is necessary therefore immediately to provide some way by which our friends there may transmit seeds or plants to us without difficulty.—If any Horticultural or Botanical Society would establish at each of the three or four towns on or near the coast of the Pacific, a place of reception for plants and seeds, and give notice of it, and agree with the regular packets, (that will be or are established to transport merchandise, to and from those ports) for the freight of such as may be furnished; and upon their arrival here, would furnish at the office of the Society, such packages as may be directed to private persons, upon the payment of expenses incurred, I believe that the plants of those countries would be speedily intro-

duced. If there is no existing society that would take charge of this matter, is there sufficient interest in the subject amongst our people to form a society for that purpose? I recommend this subject to thyself, and through the Horticulturist to its readers, desiring your attention to it, and if in your opinion, it is desirable to use measures for introducing the vegetable productions of the newly acquired territory, and also especially of the Rocky Mountains, and mountains nearer the coast of the Pacific, that such means may be employed as soon as practicable, as may be thought best suited to produce the effect. A large number of trees and shrubs of those countries have been described by botanists within the last twenty or thirty years, of which there are many that I suppose have not been introduced, among which are the following, described by Nuttall in his continuation of MICHEAUX's *Sylva*, viz. *Platanus racemosa*, *Betula oregona*, *Arbutus Menziesii*, *Quercus Garryana* and *Douglassii*, *Cornus Nuttallii*, *Castanea chrysophylla*, *Tetranthera californica*. I observe that European periodicals devoted to part of the purposes of the Horticulturist, give short notices of the introduction of new plants; such notices would interest many of its readers, Permit me to enquire, have any of the above named trees been introduced into the Northern or Middle States, and have any of the plants discovered by FREMONT, and by EMORY, and described in their Reports, been so introduced? To close as I began, with the correspondence of Bartram, I was surprised to find that fifty years had passed after the settlement of Pennsylvania before some of its most interesting trees and plants were sent to Europe, the *Magnolia acuminata* for instance; and yet upon consideration it is not more strange, than that it is so seldom planted here as an ornamental tree. *Alan W. Corson. Montgomery County, Penn. 12 mo. 24, 1849.*

There is a good suggestion in the above. Cannot the Massachusetts Horticultural Society, which has received such liberal bequests lately, appropriate something to the introduction of the grapes of Mexico, and the trees and plants of California. *Ed.*

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MASSACHUSETTS HORT. SOCIETY.—We notice that this hitherto admirably managed society is losing nothing of its character for energetic action. At the annual meeting, last month, President WALKER made the following address, in which our readers will observe that he recommends especial attention to the art of design in ornamental gardening,—a step which we should naturally expect first from refined and cultivated Boston. *Ed.*

Gentlemen of the Mass. Horticultural Society:

Your unanimous suffrages have again placed me in a position that demands my thanks for the honor conferred.

The past, the present and the anticipations of the future, cheer my path, as I feel assured I shall have your hearty co-operations in all my endeav-

ors to promote the interest of the science of horticulture.

The year which has just closed has removed from us one of our respected and beloved members. His munificent bequest to this society demands our grateful remembrance, and the specimens of his taste for the beautiful, in the highest branch of our science—Landscape Gardening—will command the attention and admiration of all who visit the spot rendered so lovely by the genius of his own elevated mind.

Landscape gardening is a branch of horticulture which the wealthy only in other countries can carry out with success, but in our own extensive and free domains, every industrious and enterprising man, with a love of nature cherished within his breast, may surround himself with the beautiful. Improvements in this department may be seen in the grounds of the late Hon. Theodore Lyman, and Hon. Thomas H. Perkins of Brookline; J. P. Cushing, Esq., of Watertown; Hon. M. P. Wilder and Samuel Downer, jr., Esq., of Dorchester; and Otis Johnson, Esq., of Lynn. Nor can I refrain from noticing the great improvements made in the nurseries generally, but more particularly in the respective establishments of Messrs. Winship of Brighton, and Messrs. Hovey of Cambridgeport. Before I dismiss this subject, allow me to recommend for your consideration the propriety of so amending the By-Laws, as to provide for and establish a professorship of Landscape Gardening.

Persons extensively engaged in the cultivation of fruit for the market, or for their own use, have probably noticed the vast number of insects which prey upon them, or otherwise destroy the fruit, in all its stages, from the opening of the flower bud to the period of its maturity. To counteract these devastations, some persons have placed bottles, partly filled with sweetened water, among the branches of their trees, thus destroying hundreds of thousands of insects without discriminating between friends and foes. This is, in my opinion, a subject worthy of consideration, and which might be placed in the hands of our Professor of Entomology for his investigation; and should he consider it a fit subject for a public lecture, or lectures, he might be solicited to communicate the result of his research in that or some other way to the members of this society and the public. I would further suggest, that the Professor of Botany, and also the Professor of Horticultural Chemistry, be consulted as to the expediency of delivering one or more lectures annually on the respective subjects committed to their charge.

The premiums offered and the gratuities given by the society, for many years past, have produced a laudable competition among the cultivators of excellent vegetables, beautiful flowers and delicious fruits. As a natural result, corresponding improvements have been made in the management of trees, shrubs, plants, &c., in the orchard, garden and conservatory, but not to that extent

probably, that would have been made had the society offered liberal premiums, for the best conducted, most productive and economically managed establishments. I would therefore recommend that premiums be offered, and gratuities be given by the society, under the direction of a committee appointed for that purpose, whose duty it shall be to visit and examine such places as the proprietors thereof shall invite them so to do, at such times, and as often as they may deem proper; without any previous notice having been given to the gardener, superintendent or other person, having charge of the same; that the committee may be able to form a correct judgment, as to the general management and state of cultivation on the premises, and to report to the society the most successful *cultivators at home*, as the other committees report the finest products exhibited in the *Hall* of the society.

The Hall of the society is well located, and in every way adapted for the present weekly and minor exhibitions of the society; but it is already found to be entirely too limited for the larger displays. I would therefore suggest that an arrangement be made to have the *annual exhibition*, in September next, under a tent or tents of ample dimensions, in some suitable place, as near the centre of the city as possible. Such a show would probably give a new impulse to the pursuits of horticulture, and in some measure meet the increasing demands of the public for more information on that subject. The eye, the mirror of the tablet of memory, will ever be, in my opinion, the pioneer in horticultural science; it should be first consulted, by being brought in contact with the useful and beautiful,—that the impressions made might be contemplated, carried away and acted upon. For this purpose a larger hall will soon be necessary; permit me therefore to suggest that our present resources should be husbanded with as much economy as a liberal and progressive management of the affairs of the society will permit, to enable it at no distant day to erect a temple, which shall be an ornament to the city, and in every way adapted to the wants of the society and the public.

When the society shall be provided with a suitable place for all its exhibitions, then, as soon as its funds will permit, the purchase of a piece of land for an experimental garden, so much needed, will, I have no doubt, occupy the attention of the society. Such an establishment would extend the sphere of our labors, and gratify the members by placing at their command further means of usefulness.

The third number of the *Transactions* of the Society will be published as soon as practicable. This number will complete the first volume, and I have the pleasure to state that a concise history of the society from its commencement to the present time, may be expected in its pages from the pen of its first President, General Dearborn.

Gentlemen: It gives me great pleasure to em-

brace this opportunity, which your kindness has given me, to present these suggestions for your consideration and action, and to assure you of my wishes to co-operate with you in all your endeavors to promote the usefulness of the society and the advancement of horticultural knowledge.

Upon the conclusion of the address, Mr. HOVEY moved its reference to a special committee of seven, who should consider and report what steps ought to be taken in regard to the suggestions therein contained. The motion was adopted, and the following gentlemen were appointed on the committee: Messrs. J. S. Cabot, C. M. Hovey, Cheever Newhall, Joseph Breck, Capt. Wm. R. Austin, Rev. Daniel Leach, and S. W. Cole.

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THE CRITIC CRITICISED—*Dear Sir*—I am glad to find that a spirit of criticism is awakened among your correspondents, in relation to architectural designs, and I hope to see it followed up by both dilettanti and professors; and let the reflecting part of the public sanction or condemn, weigh and digest. The result must be wholesome, and the Horticulturist will be looked up to as sage authority. But let the critic beware he lay not his foundation for censure upon the quick sands of superficial examination!

In remarking upon the cottage of Mr. ROTCH, (Jan number, page 310) the hipped roof is pronounced "objectionable,—cutting off one third of the chamber room, and giving to the elevation, a *squat appearance*." This *appearance* is precisely what I have been taught to consider as desirable in a rural *cottage* residence, though rarely found in country houses. May I say they do not sufficiently *spread themselves*? To me no form is more character than a flat ceiling to a cottage bed room,—and no more pleasing shape than the *peak tent-like form, growing out of the construction of a roof*;* also contributing as it does to the "*convenience and pleasantness of the apartment*," by ventilation,—the confined air rising along the upward-sloping sides of the ceiling, and passing through a ventilating register into an air chamber in the peak, still above, and thence to the outward air. The infinite variety which may be given to such a surface, the open timber roofs and groined work of the middle ages sufficiently evince. *LONDON* questions whether a perfectly unbroken flat ceiling, is in any case admissible. It would be *no question* with Mr. Ruskin. [See "*Seven Lamps Architecture*," chapter on Truth.]

The critic would have a gable spanning the whole breadth of the house, (instead of the hipped roof,) 41 feet at each end,—totally at variance in the angle, with the gable shown in the engraving, being twice as broad, and only two-thirds as high. What could be more barn-like? (See *Scientific English Architect's* publications, where *equal angles* are insisted upon, with due subordination of one to another.)

*Running up 12 or 15 ft. high in the highest part of the room.

The roof of the main body of the building is pronounced too high, and would be made subordinate, and an "*inferior appendage!*" The whole character of design, composition, and harmonious arrangement, lies in making this feature dominant, rather than subordinate.

—"O, when degree is shunked,
Which is the ladder of all high designs,
The enterprise is sick!"

SHAKESPEARE'S *TROILUS*.

The Umbrage, (mis-called *Veranda*) is objected to, from its not returning on the ends of the building. It might return with increased effect, although it covered the bay window; but, as it serves the good purpose of enabling one walking in its shelter, to command the rear view, and a pleasing fore-ground in the bay, and also spreads the front, and bases the pyramidal form of the whole structure at a minimum expense, how is it shown to be a defect?

The critic, like the Irishman in the play, must be able to see, (imperfectly indeed,) as well as shoot round the corner when he pronounces the "smaller gables to be dormers,—affording imperfect light to the chambers." These side gables are 10 feet wide, and 8 feet high, according to the scale of the engraving.

I do not understand what is referred to as a sky light, since there is none. The *parapet*, (not *balustrade*, as this last term belongs to Italian architecture) defends those who go out upon the roof to enjoy the magnificent view of the sea and shipping in the harbor and surrounding country, from slipping down the steep sides; hence it is not "useless."

With respect to the plan, doubtless "family bed rooms," an ample kitchen in a wing, other back stairs, men servant's bed room, a bathing room, wash room, wood room, out buildings, and other accommodation might add to the convenience of a family, if convenient to the proprietor to pay for it. The house is rather compact indeed!

"Masters, spread yourselves"

SHAKESPEARE'S *DREAM*.

Yours, truly, Alex'r J. Davis. New-York, Jan. 1850.

.....
ORIGIN AND IMPROVEMENT OF CULINARY VEGETABLES.—On taking a view of some of our most valuable trees, fruits and vegetables, in their primitive and natural condition, as they have existed—and as they still exist in their native habitats, we cannot fail to be struck with surprise at the extraordinary change which has been effected upon them. From being worthless weeds, some are converted into useful vegetables, and from being vagabonds of the way-side, others have become the most valuable garden productions. I am not at present to tread upon the disputed doctrine *Constitutio Mutare Vegetatio*, which as far as I know still remains an unsettled subject, but merely to notice a few of the most valuable productions of our gardens as objects of culture and economy, with the view of stimulating gardeners to do

something in the way of effecting similar improvements in others.

Let us begin with some of our common garden vegetables, the majority of which we find to be the offspring of wild plants from the hedge-rows, way-sides, fields and ditches, and some from the sea shores. The Brassica tribe for instance—the cabbage, turnip, &c., are found wild in Britain, and in their native state are the most unpromising things imaginable, wood, hard and tough,—as unlikely things to produce fine cabbages and turnips, as that member of the same family the mustard, is to become an eyrie for an eagle's nest. Those fine cabbages brought into our markets, bear no resemblance to the *B. oleracea* from which they sprung, and yet from this solitary species are all those varieties,—the large white and red cabbage coleworts, green savoys, Brussel sprouts, cauliflowers, brocolies, and about twenty other varieties. The versatility of this tribe of plants is extraordinary indeed; and this will appear the more evident, when we consider that from the white cabbage alone, there are above thirty varieties, differing in their sizes, form, hardness, and periods of coming to maturity, and though they maintain their general characters throughout, they are in many other respects widely different.

The *Cucurbitaceæ* have also rendered themselves conspicuous, especially in this country, as a valuable family of vegetables, and easily improved.—The most valuable of these are natives of Central Asia; where they are found growing abundantly on the hill sides, and in alluvial deposits. The effects of high culture and hybridization on this family have been indeed wonderful, both as regards product and quality. Compare some of the cucumbers under present cultivation with their original—the *Cucumis sativa*, or the present varieties of melon, squash, &c., with those found in their native habitats.

Again we have the celery, (*Apium graveolens*,) also a British plant, and found growing abundantly on the south western sea shores of England, but in a condition so coarse, rank, and even poisonous, as almost to defy the efforts of cultivation to render it eatable; and requires a long course of cultivation to make suitable for human food! The asparagus, (*Asparagus officinalis*) is also found growing abundantly on the coast of England, and the islands around it; but it is tough, and its taste somewhat pungent. It is found growing in poor sandy soil, generally near the sea; it is small in size, and very different from the same plant in a highly cultivated state.

The parsnip, (*Pastinacea sativa*), also a native of Britain, and grows wild in calcareous places by the road sides. In its cultivated state, it is one of the most valuable and nutritious roots. The nutritious portion of this root is found on analysis to consist of ninety-nine parts in a thousand, of which nine parts are mucilage, the remaining portion being saccharine matter. Unlike some others, the nutritive qualities of this root are decreased by high

cultivation, except the ground be of a dry calcareous nature. In rich damp soils it acquires a rank taste, and is less sweet and agreeable as an article of diet, than when grown on poor land. In its natural habitat, the root is small and fibrous, not unlike the common dandelion, (*Leontodon taraxacum*) but even in this state is very franaeous.

Sea kale—(*Crambe maritima*.) This plant is wonderfully improved by cultivation, although it is used in its wild state by the people on the western shores of Britain, where it is plentiful; but in its wild state, it requires no small effort to overcome its acid and disagreeable taste. It is nevertheless much used, and when cut as it springs through the sand, is considered little inferior to asparagus. It springs up generally among sand or gravel, but thrives best where the sand is mixed with alluvial matter, and occasionally watered with the saline spray; hence in cultivating this vegetable in gardens, it is advisable to make the ground to resemble in some degree its natural habitat! The carrot, (*Dacus carota*.) This plant is indigenous to Britain, and is found growing in great abundance by the way-sides and hedges; but so very different is it from the cultivated varieties, that it is doubted by some whether it be in reality the prototype of sorts now grown in our gardens. It is probable that our cultivated carrots are a distinct species, although many are of opinion, that they are merely varieties of the *Dacus carota*. The former opinion seems supported by the fact, that the wild species has defied all attempts to improve it by cultivation, but this is no conclusive evidence of its being a distinct species from the others.

Beet is found in a wild state in some parts of the south of Europe; but no more like the beet grown in our gardens, than the potatoes of Chili are to the fine farinaceous roots of present culture. So much have these roots improved in size and quality, that their original species is lost sight of.

In the Leguminous family we observe the same improvement in its products. So much is the common pea (*Pisum sativum*) changed from its original condition, that the species from which it sprung, or even its native country, is unknown. At a very early period it formed a staple article of human food, for which it was admirably adapted, since it contains fifty-seven and a half per cent. of nutritive matter. The pea therefore is an invaluable vegetable on account of its nutritive qualities, and ought to find a place in every garden. It might be asked, can nothing more be done to render this family of plants more prolific, earlier, hardier, and higher flavored.

The Lactuca, are a tribe of plants very much circumscribed in their value, and capable of being much more extensively used. Whether the common lettuce of our gardens be one of the three species indigenous to Britain, is unknown; it is certainly, much changed from the lactuca virosa,

to which it bears some resemblance. But even within the last few years, this vegetable has been much improved! A vegetable has lately been introduced from China, under the name of "Hoo-sung," somewhat resembling a lettuce, but which genera of the *Cichoracea* it belongs to, I have had no means of determining; most probably a *Lactuca*, to which it has a strong affinity. I grew some of this vegetable during the past season, but when sent to the table it was rejected as worthless. I am convinced however, this was owing to its being too old before it was used, and also to its being improperly cooked, as I have eaten it at the table of a friend, when it was considered equal, and even superior to asparagus. It should be grown early, and rapidly, on rich soil, and used in a young state, i. e. before the stalk has attained a hard and fibrous texture. A shady, cool spot is the best, where it will not be effected by the mid-day sun. Like all the lettuce family, it becomes exceedingly acid when grown under the warm sun. I think it may yet become a useful vegetable, and has the merit of being easy grown and very productive. I believe Dr. WENDELL and others have grown it during the past season. Their further experience upon it would be desirable.

In reference to the foregoing plants, it cannot be affirmed that they are incapable of further improvement, and that further attempts to improve them would be hopeless; and even were it so—which it assuredly is not—there is still a very wide field of usefulness among other classes of plants, which, though not less susceptible of improvement, have hitherto been wholly neglected. Our predecessors, as I have here shown, have by their skill and industry reared up a valuable assortment of useful vegetables, and it is upon us who have succeeded them, that devolves the privilege,—and I may say, the obligation—to carry onward this improvement, for most assuredly the resources of nature are far from being exhausted. The hybridization of the most of our common vegetables is an exceedingly easy process, and the gratification of producing something new, is of itself a sufficient compensation for the trouble which it costs. *R. B. Leuchars.*

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ANSWERS TO CORRESPONDENTS.

WASH FOR COTTAGES.—*H. Ely*, (Elyria, O.) French Blue is not, perhaps, to be had, except in the large cities. To make the "gray-stone colour," you may, instead, add to the whitewash burnt amber and lampblack; but the lampblack must first be well dissolved in alcohol, or it will not mix freely with the whitewash.

PRIVET HEDGES.—*M. S.*, (Poughkeepsie, N. Y.) No hedge is so easily raised as this. Cuttings grow with great readiness, if planted early in April; but the most durable hedge is obtained by raising the plants from seed, which may be planted either in the fall or spring. Any good garden

soil will answer for the Privet; or, if the hedge is to be grown on ground in a rough state, dig it 18 inches deep, and intermix a dressing of stable manure before setting the plants or cuttings. The latter should be set six inches apart. The hedge may be sheared into any shape after the second year, and needs very little else, except to keep the weeds from growing about it.

MANURES.—*A. R.*, (Lowell, Mass.) The skimmings, or refuse of woolen factories, is a very powerful manure, and is usually wasted, as it heats and takes fire if thrown in heaps. Carried away daily and mixed with muck or common soil, a small quantity of it would render the whole mass excellent manure. *M. S.*, (Poughkeepsie.) We have used the sweepings of blacksmith shops, and agree with you that they are excellent, especially for pear trees.

PRUNING HARDY GRAPES.—You may prune your vines during any suitable weather in February. If the trellises are properly covered with main stems, all you have to do is to cut back the side shoots (of last year's growth,) to a single bud or eye at the base of the shoot. This eye will form the bearing shoot of the coming season.

GRAPE ARBORES.—*M. S.* The semi-circular arbor you refer to, has only the transverse strips across the top,—and finer fruit is grown in this way when fruit alone is the object; but there is

no objection to strips upon one or both sides also, when a shelter or screen is also desired. The posts are eight feet above ground, and three and a half below it, and are set six feet apart.

COTTAGE FURNITURE.—*R. L.*, (Indiana.) Cottage furniture, of simple and very tasteful forms, may be had at HENE. SV's warehouse, 25 Brattle-st., Boston, the largest establishment of the kind in the Union. There are also various dealers in New-York and Philadelphia, who have cottage furniture, though not in such variety.

CULTURE OF EXOTICS.—*A. M. D.*, (North Carolina.) *Begonia fuchsioides* likes rich, sandy soil, and a rather warm green-house in winter. While it is growing and blooming give it as much water as it likes; but when at rest, give it very little. *Sparmannia africana* is a strong grower, requiring the least possible care,—only pot-room and plenty of water. It will bear any amount of pruning, or may be allowed to grow into quite a tree. *Clerodendrum speciosissimum* and *Pentas carnea* prefer a rich soil, composed of loam, rotten dung, and sandy peat, and a moist atmosphere. *Columnnea crassifolia* likes a dry part of the house, and must not be overwatered. *Habrothamnus elegans* is easily grown in the green-house, in a mixture of rich loam and sand. *Weigela rosea* is a hardy deciduous shrub, and, of course, loses its leaves in winter. It grows as easily from cuttings as a currant bush.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society was held on Tuesday evening, January 15, 1850. The President in the chair.

The display of plants on the occasion was very creditable for mid-winter. Among the President's collection were the *Sorbaria macroaula*, a new plant of a new genus, and the *Begonia manicata*, of recent introduction, and shown for the first time, with others possessing interest; the *Pitcairnia coccinea*, *Cypripedium venustum*, *Centradenia rosea*, etc. And in Robert Buist's display were *Camellia japonica* variety, Fielder's Queen of England, *Clerodendron viscosum*, *Spiraea prunifolia* fl. pl., *Corea multiflora rubra*, *Franciscea latifolia*, with many others. By John Lambert's gardener, fine specimens of *Strelitzia regina*, *Azalea alba*, *Franciscea latifolia*, *Gongora maculata*, *Camellia variegata*, *Begonia alba*, *Daphne indica odora*, *D. variegata*, etc. Of fruits, Thomas Hancock and John Perkins exhibited fine apples; and H. N. Johnson l'Echaserie pears; and in the President's collection of vegetables were new potatoes, asparagus, mushrooms, sea-kale, radishes, lettuce, endive, &c.; and by Anthony Felten, a rich display of vegetables.

Premiums were awarded as follows:

By the committee on plants and flowers; for the best hot-house plants, three specimens, to Ben Daniels, gardener to C. Cope; for the second best, to Maurice Finn, gardener to John Lambert. For the best green-house plants, three specimens, to Ben Daniels; for the second best, to Maurice Finn. For the best and most interesting collection of plants in pots, to Ben Daniels; for the second best, to Maurice Finn; for the third best, to Robert Scott, foreman to Robert Buist. For the best design of cut flowers, to Ben Daniels; for the second best design, to Peter Raabe. For the best basket bouquets, to Maurice Finn; for the second best, to Ben Daniels.

By the committee on fruits; for the best apples, half peck Newtown Pippins, to Thomas Hancock; for the second best, Romah Stern, to John Perkins. For the best pears, l'Echaserie, to H. N. Johnson.

By the committee on vegetables; for the best and most interesting display of vegetables, by a market gardener, to Anthony Felten; for the best display by an amateur, to Ben Daniels. And a special premium of one dollar for a fine display of cauliflower, to Anthony Felten.

The committee for establishing premiums reported a schedule for the year 1850, which was adopted.

The library committee submitted their annual report, on the condition of the library, and state "that under the fostering care of the society, it has increased in size until it now numbers eight hundred and fifty volumes, which must be considered a very respectable library, when the branches of literature within which the committee confine its limits, the costliness, value and rarity of many of the works are taken into view; and embracing a number of works of great utility, not accessible in any other institution."

"During the past year forty-seven volumes have been added, of which six were gifts."

The President announced the appointment of committees for the ensuing year.

Messrs. Lippincott, Grambo & Co. presented a neat copying press to the society, for the use of the secretary; when, on motion,

Resolved, That a vote of thanks be tendered for the acceptable gift.

A communication from the secretary of the Massachusetts Horticultural Society, in relation to the time of holding autumnal exhibitions, was read; and the corresponding secretary requested to reply, acknowledging its receipt.

The Annual Meeting was held after the adjournment of the stated meeting, when Elhanan W. Keyser was called to the chair, and George Zantlinger appointed secretary.

A communication from David Landreth was read, declining a re-election as a vice-president, on account of his remote residence.

The following gentlemen were duly elected officers, to serve for the ensuing year:

President—CALEB COPE.
Vice-Presidents—General R. PATTERSON, JAMES DUNDAS, JOSHUA LONGSTRETH, and ELHANAN W. KEYSER.
Treasurer—JOHN THOMAS.
Corresponding Secretary—THOMAS C. PERCIVAL.
Recording Secretary—THOMAS P. JAMES.

Adjourned.

THO. P. JAMES,
 Recording Secretary.

Horticulturist

JOURNAL OF RURAL ART AND RURAL TASTE.

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No. 9.

HOW TO LAY OUT A COUNTRY PLACE? That is a question about which we and our readers might have many a long conversation, if we could be brought on familiar terms, colloquially speaking, with all parts of the Union where rural improvements are going on. As it is, we shall touch on a few leading points this month, which may be considered of universal application.

These cardinal points within the bounds of a country residence, are (taking health and pleasant locality for granted,) *convenience, comfort*—or social enjoyment—and *beauty*; and we shall touch on them in a very rambling manner.

Innumerable are the mistakes of those novices in forming country places, who reverse the order of these three conditions,—and placing beauty first, (as, intellectually considered, it deserves to be,) leave the useful, convenient, and comfortable, pretty much to themselves; or, at least, consider them entitled only to a second place in their consideration. In the country places which they create, the casual visitor may be struck with many beautiful effects; but, when a trifling observation has shown him that this beauty is not the result of a harmony between the real and the ideal,—or, in other words, between the surface of things

intended to be seen and the things themselves, as they minister to our daily wants,—then all the pleasure vanishes, and the opposite feeling takes its place.

To begin at the very root of things, the most defective matter in laying out our country places (as we know from experience,) is the want of forethought and plan, regarding the location of what is called the *kitchen offices*. By this we refer, of course, to that wing or portion of a country house containing the kitchen, with its store-room, pantry, scullery, laundry, wood-house, and whatever else, more or less, may be included under this head.

Our correspondent, JEFFREYS, has, in his usual bold manner, pointed out how defective, in all cases (where the thing is not impossible,) is a country house with a kitchen below stairs; and we have but lamely apologised for the practice in some houses by the greater *economy* of such an arrangement. But, in truth, we quite agree with him, that no country house is complete unless the kitchen offices are on the same level as the principal floor containing the living apartments.

At first thought, our inexperienced readers may not see precisely what this has to do with laying out the grounds of a country

place. But, indeed, it is the very starting point and fundamental substratum on which the whole thing rests. There can be no complete country place, however large or small, in which the greatest possible amount of privacy and seclusion is not attained within its grounds, especially within that part intended for the enjoyment of the family. Now it is very clear that there can be no seclusion where there is no separation of uses, no shelter, no portions set apart for especial purposes, both of utility and enjoyment. First of all, then, in planning a country place, the house should be so located that there shall be at least two sides; an entrance side, which belongs to the living, or best apartments of the house; and a kitchen side, (or "*blind side*,") complete in itself, and more or less shut out from all observation from the remaining portions of the place.

This is as indispensable for the comfort of the inmates of the kitchen as those of the parlor. By shutting off completely one side of the house by belts or plantations of trees and shrubbery from the rest, you are enabled to make that part more extensive and complete in itself. The kitchen yard, the clothes-drying ground, the dairy, and all the structures which are so practically important in a country house, have abundant room and space, and the domestics can perform their appointed labors with ease and freedom, without disturbing the different aspect of any other portion of the grounds. There are few new sites where there is not naturally a "*blind side*" indicated; a side where there is a fringe of wood, or some natural disposition of surface, which points it out as the spot where the kitchen offices should be placed, in order to have the utmost shelter and privacy,—at the same time leaving the finer glades, openings, and views, for the more

refined, social and beautiful portions of the residence. Wherever these indications are wanting, they must be created, by artificial planting of belts, and groups of trees and shrubs,—not in stiff and formal lines like fences, but in an irregular and naturally varied manner, so as to appear as if formed of a natural copse, or, rather, so as not to attract special attention at all.

We are induced to insist upon this point the more strenuously, because, along with the taste for the architecture of PERICLES, (may we indulge the hope that he is not permitted to behold the *Greek* architecture of the new world!) which came into fashion in this country fifteen or twenty years ago, came also the fashion of sweeping away everything that was not temple-like about the house. Far from recognizing that man lives a domestic life,—that he cooks, washes, bakes and churns in his country house, and, therefore, that kitchen offices, (tastefully concealed if you please, but still ample,) are a necessary, and therefore truthful part of his dwelling,—they went upon the principle that if man had fallen, and was no longer one of the gods, he might still live in a temple dedicated to the immortals. A clear space on all sides—pediments at each end, and perhaps a colonnade all round; this is the undomestic, uncomfortable ideal of half the better country houses in America.

Having fixed upon and arranged the blind side of the house—which, of course, will naturally be placed so as to connect itself directly with the stable and other out-buildings,—the next point of attack is the *kitchen garden*. This is not so easily disposed of as many imagine. All persons of good taste agree that however necessary, satisfactory, and pleasant a thing a good kitchen garden is, it is not, æsthetically considered, a beautiful thing; and it never

accords well with the ornamental portions of a country place, where the latter is large enough to have a lawn, pleasure grounds, or other portions that give it an ornamental character. The fruit trees, (and we include now, for the sake of conciseness, kitchen and fruit garden,)—the vegetables, and all that makes the utility of the kitchen garden, never harmonize with the more graceful forms of ornamental scenery. Hence, the kitchen garden, in a complete country place, should always form a scene by itself, and should, also, be shut out from the lawn or ornamental grounds by plantations of trees and shrubs. A good locality, as regards soil, is an important point to be considered in determining its site; and it will usually adjoin the space given to the kitchen offices, or that near the stable or barns, or, perhaps, lie between both, so that it also is kept on the blind side of the house.

After having disposed of the useful and indispensable portions of the place, by placing them in the spots at once best fitted for them, and least interfering with the convenience and beauty of the remaining portions, let us now turn to what may properly be called the ornamental portion of the place.

This may be confined to a mere bit of lawn, extending a few feet in front of the parlor windows, or it may cover a number of acres, according to the extent of the place, and the taste and means of the owner.

Be that as it may, the ground-work of this part should, in our judgment, always be **LAWN**. There is in the country no object which at all seasons and times gives the constant satisfaction of the green turf of a nicely kept lawn. If your place is large, so much larger and broader is the good effect of the lawn, as it stretches away,

over gentle undulations, alternately smiling and looking serious, in the play of sunshine and shade that rests upon it. If it is small—a mere bit of green turf before your door—then it forms the best and most becoming setting to the small beds and masses of everblooming roses, verbenas, and gay annuals, with which you embroider it, like a carpet.

Lawn, there must be, to give any refreshment to the spirits of man in our country places; for nothing is so intolerable to the eye as great flower-gardens of parched earth, lying half baked in the meridian sun of an American summer. And though no nation under the sun may have such lawns as the British, because Britain lies in the lap of the sea, with a climate always more or less humid, yet green and pleasant lawns most persons may have in the northern states, who will make the soil *deep* and keep the grass well mown.

To mow a large surface of lawn—that is to say, many acres—is a thing attempted in but few places in America, from the high price of labor. But a happy expedient comes in to our aid, to save labor and trouble, and produce all the good effect of a well mown lawn. We mean sheep, and wire-fences. Our neighbor and correspondent, Mr. SARGENT, of Wodenethe, on the Hudson, who passed a couple of years abroad, curiously gleaning all clever foreign notions that were really worth naturalizing at home, has already told our readers (see page 211,) how wire-fences may be constructed round lawns or portions of the pleasure grounds, so that only a strip round the house need be mown, while the extent of the lawn is kept short by sheep. This fence, which costs less than any tolerable looking fence of other materials, is abundantly strong to turn both sheep and cattle, and is invisible at the distance of 40 or 50

rods. Mr. SARGENT is not a theorist, but has actually enclosed his own lawn of several acres in this way; and those who have examined the plan are struck with the usefulness and economy of the thing, in all ornamental country places of considerable extent.*

We have said nothing as yet of the most important feature of all country places—trees. A country place without trees, is like a caliph without his beard; in other words, it is not a country place. We shall assume, therefore, that all proprietors who do not already possess this indispensable feature, will set about planting with more ardor than WALTER SCOTT ever did. It is the one thing needful for them; and deep trenching, plentiful manuring, and sufficient mulching, are the powerful auxiliaries to help them forward in the good work.

It is, of course, impossible for us to tell our readers how to arrange trees tastefully and well, under all circumstances, in this short chapter. We can offer them, however, two or three hints as to arrangement, which they may perhaps profit by.

The first principle in ornamental planting, is to study the *character of the place* to be improved, and to plant in accordance with it. If your place has breadth, and simplicity, and fine open views, plant in groups, and rather sparingly, so as to heighten and adorn the landscape, not shut out and obstruct the beauty of prospect which nature has placed before your eyes. *Scattered groups*, with continuous reaches

or vistas between, produce the best effect in such situations. In other and more remote parts of the place, greater density of foliage may serve as a contrast.

In residences where there is little or no distant view, the contrary plan must be pursued. Intricacy and variety must be created by planting. Walks must be led in various directions, and concealed from each other by thickets, and masses of shrubs and trees, and occasionally rich masses of foliage; not forgetting to heighten all, however, by an occasional contrast of broad, unbroken surface of lawn.

In all country places, and especially in small ones, a great object to be kept in view in planting, is to produce as perfect seclusion and privacy within the grounds as possible. We do not entirely feel that to be our own, which is indiscriminately enjoyed by each passer by, and every man's individuality and home-feeling is invaded by the presence of unbidden guests. Therefore, while you preserve the beauty of the view, shut out, by boundary belts and thickets, all eyes but those that are fairly within your own grounds. This will enable you to feel at home all over your place, and to indulge your individual taste in walking, riding, reciting your next speech or sermon, or wearing any peculiarly rustic costume, without being suspected of being a "queer fellow" by any of your neighbors; while it will add to the general beauty and interest of the country at large,—since, in passing a fine place, we always *imagine* it finer than it is, if a boundary plantation, by concealing it, forces us to depend wholly on the imagination.

* In the cut and description given at p. 212, wooden posts at intervals of 100 feet are used. But by an ingenious variation of the mode, Mr. S. has since entirely dispensed with all wooden posts, without increasing the expense, or lessening the strength; and we hope to give a cut in our next, showing the improvement.

THE PROCESS OF WINE-MAKING ON THE OHIO.

BY N. LONGWORTH, CINCINNATI.

DEAR SIR—The plan given by your southern correspondent in the last number, and which you appear to commend for the making of a fine wine, will be read with much surprise in our back-woods. If we wished to destroy the fine, natural aroma and flavor of our Catawba and Herbemont grape, we should follow the very course he recommends; and I believe a moment's consideration will satisfy you we should accomplish the object by mashing the grapes with a "green beech maul," to take from them their natural taste, and supply it with the taste of the sap of the beech. To place our success beyond dispute, and effectually destroy the muscadine flavor of the grape, we would place the grapes in his "fresh emptied whiskey barrel," pound them with his green beech maul, and a few hours, in warm weather, in the tub, will enable the lovers of new whiskey to detect its aroma and flavor (for years,) and even imagine they are drinking a diluted specimen of their favorite beverage. Here, the experiment would not be a profitable one, as the article of whiskey is sometimes sold for 15 cents per gallon. He bottles the wine as soon as it is fine, in the spring. We should do the same, if we wished our wine to form a sediment, and be unfit for sale. After the must is pressed from the grape, he exposes it for many days to the atmosphere.

We gather our grapes at full maturity; carefully pick off all green, rotten, and decayed grapes; pass them as speedily as possible through a machine, (thoroughly seasoned, and all possible taste from the wood extracted,) to separate the stems from

the grapes, and mash them, without breaking the seed. Instead of placing them in a towel and bowl, we place them on a large clean press, in which not a nail is driven, and the wood of which has been fully seasoned; and even if of beech wood, should not allow a particle of the taste of the wood to remain in it. Press it as speedily as possible, keeping the last hard pressing separate from the earlier runnings. Place the *must* in clean casks, from which no taste could be obtained from the wood, or any previous brandy or wine holdings, unless from liquor from the same kind of grape. We immediately place the cask in a cool cellar, do not fill it entirely, but as soon as the fermentation commences, stop the passage of the strength and aroma of the grape as far as possible, by putting in a tight bung, through which passes a crooked syphon into the cask to receive the air; and the opposite end of the crooked syphon is placed in a vessel of water; and the syphon is continued until the fermentation is nearly over, when the syphon is taken out and a tight bung driven in, giving air by a small gimlet hole two or three times a day, for three or four days; after which all air is excluded till the wine is clear, when it is racked, and the cask thereafter kept full and tight. If we wish a superior article, we do not deem it fit for bottling till four or five years old. If fining were necessary, and isinglass or the white of eggs, to fine a pipe, cost \$20, we should never think of using beech chips.

I do not pretend to say, that all our vineyard men pursue this course. Many of them use brandy, whiskey, and wine casks,

and are careless in other respects; and they find the difference when their wine is brought to market for sale. There are some of my own tenants who have been vinedressers all their lives in Germany, whose wines I never buy, and would not pay them one-fifth the price I would pay to other tenants. We should as soon think of setting our milk to raise cream for butter in a fresh whiskey barrel, as we would to place our washed grapes in it, or the must, after it is pressed out.

It seems at the south, the Roanoake grape is their favorite wine grape. This is the Scuppernong of North Carolina. It appears that they, there, to make a Hock wine, (a hard dry wine,) put three pounds of fine sugar to the gallon of must. Here, we never add sugar, unless in a season when our grapes do not ripen, which is a rare occurrence. If we wished to make a syrup, to supply the place of molasses, we might add three pounds of sugar to the gallon of

must, but never to make wine. See Patent Office Report for 1847, page 471. When we commenced making wine from the Catawba grape some 25 years since, we drank none but Madeira wine, and supposed none but brandy and Madeira wine casks were fit to put our must in. The consequence was, we destroyed the natural flavor of the grape, and greatly lessened its value. Yours respectfully,

N. LONGWORTH.

Cincinnati, Ohio, Jan. 12, 1850.

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We are not a little obliged to Mr. LONGWORTH, whose vineyards on the Ohio have become almost a matter of national interest, for the foregoing pithy and concise account of the manner of wine-making pursued by him, and agree that it is far preferable to the directions published last month; which were intended rather for performing the operation in a homely manner. ED.

STRAY NOTES ON HORTICULTURE.

BY S., PHILADELPHIA.

TRANSPLANTING.—Small plants may be neatly and safely transplanted from borders, &c., by making narrow trenches round them, and filling such trenches with plaster of paris, mixed with water to the consistence of thick cream. This quickly becomes hard, or sets, and forms a pot, in which the plant may be lifted without disturbing the roots. With a little ingenuity, the soil and roots may be so encompassed, with the same material, as to greatly facilitate the safe removal of a choice plant to any reasonable distance.

Shade.—It is advisable to place an empty

flower pot or basket over all newly transplanted plants for a few days, removing it only when the sun is warm, but *not* shining on the plant.

Draining Flower Pots.—Of all circumstances connected with the culture of flowering plants in pots, none is more important and less regarded than draining; that is, putting a stratum of broken pots, broken tiles, or bricks, of a soft quality, in the bottom of the pots, underneath the soil and roots of the plants; potsherds should be broken down till the largest does not exceed the size of a small bean,—the pow-

der occupying the topmost part. As a general rule, every pot should have near one-fourth of its depth occupied by this material.

Drying Plants.—Plants may be dried in such a manner as to be extremely beautiful, retaining the whole of the volatile oil and aroma, and their true colours. To effect this, they must be dried in a dark and close room, and not, as is usually the case, by exposure to a current of air and the action of light. When the separation of the aqueous particles is effected by their evaporation, and they are tolerably dry, they are to be submitted to pressure in small quantities, enveloped in a slightly absorbent paper, until the oil appears on the surface, and which is known by its discoloration; by this, all change of colour by the action of the light, or further loss of volatile matters by evaporation, is prevented. In pot herbs, as well as medicinal plants, this will be found a very decided improvement.

Small or Large Gardens.—It is a prevailing and most erroneous opinion, that the enjoyments derivable from a garden are just in proportion to its magnitude. So far from this being the case, it may be said to be a fact, that it would confer a most essential service to the science of gardening, either to lessen by one-half almost every ornamental garden, or allow double the amount of labor to that usually bestowed upon them. In ninety-nine gardens in every hundred, it will be found that their extent is such, compared with the labor allowed for keeping, that the time and attention required for the nicer operations of the art are almost, if not wholly, absorbed in the manual labor, demanded in keeping in repair the beds, grass walks, &c. This ought not to be. *The pleasures and enjoyments of a garden by no means depend on its extent, but on its high state of culture and keeping.*

To Preserve Flowers Fresh.—When cut flowers are withering, plunge about one-third of the stem in boiling water; by the time the water is cold, they will revive. Then cut off the ends, and put them in cold water with a little nitre, when they will keep for several days.

Ants.—To drive away ants, use sulphur steeped in water; if in the gravel walks, strew the gravel with salt, and then water it; this will apply also to worms. Boiling water is also efficacious; but drowning them out with cold water useless.

Gray Squirrels.—The public squares of Philadelphia were enlivened all last summer and fall, by numerous gray squirrels that had been let out partially tamed; and it was a beautiful incident, that though they fed out of the hands of visitors, not one was injured or captured. This proves that reasonable enjoyments, that are within the reach of all, will not necessarily be abused if liberally provided.

Feeding Trees.—In the Horticulturist, vol. 2, for July, 1847, page 28, I described a process of "feeding trees," as I saw it done at Dropmore, the famous arboretum of Lady GRENVILLE, not far from Windsor. The gardener opened trenches, radiating from the trunk of the tree like the spokes of a wheel, to a distance thirty or forty feet in every direction. Each trench met a young root which was led into it, and was quickly cleared of the common soil, and filled with a rich compost of loam and manure. It was owing to this treatment that the trees at Dropmore had attained the extraordinary growth which made them the admiration of every tree fancier, fortunate enough to see them. That this process is an admirable one, let any one convince himself by experiment. How grateful would be the old apple and pear trees, which have ceased to bear fruit, if they

could experience a little of this treatment. As it is, they are too often imprisoned in their hard soils, and about as likely to make progress as a resident of the penitentiary to make a fortune. Look at the willow; how anxiously it sends off a root towards its natural nourishment—water. That ability I have proved thus. Round the top of the tub of an old gum elastic tree, in the house, which has continued to sustain the heat of a powerful furnace, and to grow wonderfully, I placed a number of

small thumb pots, filled with rich earth, and kept regularly watered every day. After six weeks, I pulled one of them from the surface, and found a strong root had risen to the small hole in the bottom, and had taken possession; another and another had the same visitor, though previously the roots had shown no disposition to rise to the surface. A lesson, this, which is full of meaning. Feed your valuable trees, and they will be as grateful as your pigs and poultry. Yours, S.

THE CULTURE OF THE CARNATION.

BY WM. CHORLTON, STATEN ISLAND.

ALLOW me, through your pages, to draw the attention of your readers to one of Flora's greatest boons—the Carnation. This flower, in its natural state, is truly lovely, but in its greatest floricultural perfection is surpassed by none but the Rose; and with the exception of the everblooming roses, not even by that flower. Whether we consider its evergreen foliage, the delicate and graceful habit of its flower stems, exquisite perfume, brilliant and distinct colours, or its symmetrical form, it is equally inviting to our senses, and equally admirable, and, in Europe, it is the peculiar favorite of all classes; and I see no reason why it should not be as generally cultivated in this fine climate, which is all that can be desired for its prosperity. It is true, there are many fine varieties here, in general cultivation; but it is a matter of surprise to me that so few of the best English sorts are to be found, considering the ready transport by steam between the two countries, and the low price at which they can be purchased there. Most of the sorts here are of German origin, or in the German style,—being

merely double flowers, without any particular regularity of form, and not possessing distinctness in their colours, which is far from being the case with the English kinds. I do not wish to depreciate the value of the continental carnations; for I admit that this plant is grown there quite as extensively as it is in Britain; but I see no reason why we should not possess those which are most beautiful, as they only require the same care. If any nice discrimination is needed to decide the relative merits of such floral varieties, I would wish for no better judges than the American ladies.

So great is the enthusiasm of some of the rural peasantry of England, regarding the Carnation, that I have frequently known the poor hand-loom weaver strip the tattered sheet from his humble bed, to his own discomfort, in order to protect his favorite flowers; and to him, in most cases, is to be attributed the present perfection of the Carnation, as the simple technicalities applied to it, and drawn from his untutored mind, will testify.

The Carnation is the *Dianthus caryophyll-*

lus of botanists, and belongs to the class Decandria, and order Trigynæa of the sexual, and order Caryophyllææ of the natural system of botany. In its wild state, it is only a single flower, having one row of petals, and is supposed to be indigenous to Germany, though it has also been occasionally found in rocky situations on the south-eastern coast of England. In a cultivated state, we have record of its having engaged the attention of florists, in the latter country, about two and a half centuries. GERARD received it in 1597 from Poland. PARKINSON, in 1629, enumerates forty-nine sorts; and REA, in 1702, has three hundred and sixty good sorts. This rapid progress in the number of varieties proves that the florists of those days paid great regard to it; but I much doubt if their standard came anything near the criteria of the present day, as improved kinds are not now so easily procured.

The varieties of this flower are now arranged into three classes; *Bizarres*, *Flakes*, and *Picotees*. *Bizarres* (Fr., odd or irregular,) are variegated in irregular stripes, running lengthwise down the petal, from the outer margin towards the base, and having not less than three colours. This division is further subdivided into pink or crimson, having white, pink, and crimson colours; and scarlet, having white, scarlet, and maroon colours. *Flakes* are variegated in a similar way, but have only two colours; (scarlet, having white and scarlet—rose, having white and rose—and purple, having white and purple colours.) *Picotees* (Fr., *piquetée*, pricked or spotted,) have a white or yellow ground, and are margined with rose, red or purple. This class is subdivided into purple, each petal having a purple belting; red, having a red belt in like manner; and rose, having a rose coloured belt. Yellow *Picotees* have a yel-

low, or primrose ground, and bordered in like manner. *Picotees* are still further subdivided into heavy edged, having a broad belting; and light edged, having a fine narrow border. There are also some very pretty self coloured kinds, which, though not much regarded by florists, are notwithstanding very handsome, and well worthy of cultivation.

Criterion of a Good Carnation.—The stem should be strong and straight, averaging from thirty to forty inches high; the footstalks should be sufficiently strong to support the flower, and of proportionate length; the calyx, or cup of the flower, should be regularly shaped all round, and proportionately long, to support the flower above the stem,—the segments bursting regularly and freely, so as to allow the petals to expand without bursting. The corolla or flower should form a perfect hemispherical, imbricated outline, and have the petals perfectly free from notch or serrature of any kind. The lower, or guard leaves, should not set upon the calyx, but rise about half an inch above it, and turn gracefully over,—lying horizontally. The upper rows of petals should be regularly smaller, and placed alike on all sides, so that the colours may show to the best advantage, which should be bright and distinct, and in due proportion. In *Bizarres*, the three colours should be equal; but in *Flakes*, the white may preponderate a little in some cases, without detracting from the beauty of the whole. In both these classes, the variegation should run in lines down the petal, from the upper margin to the claw, being broadest at the top, and gradually tapering to a point at the base. In *Picotees*, the belting should extend perfectly round the outer surface of the petals, and be confined to it, leaving the ground colour perfectly free from spots.

The Carnation may be propagated by seed, layers, pipings, or slips.

Propagation by Seed.—If a select and choice collection is the object, this is only resorted to for the purpose of getting new and improved varieties; in which case, it is well to grow the seedling plants in a bed removed from the general stock; and as this sunny, dry clime is all that can be required for the free impregnation and ripening of the seed of this favorite, I see no reason why America could not boast, in a few years, of seedling Carnations of its own, equal if not superior to any in the world, providing due care were taken in selecting the sorts to be seeded, and a little trouble in the crossing. In this case, the same process should be observed as in my directions for the Dahlia, recorded in the Horticulturist for November; only remembering that the male and female parts are placed in a somewhat different position; this being a simple, while the Dahlia is a compound flower. The seed may be sown as soon as ripe, or kept till the following spring. If sowed when ripe, the young plants will require protection during winter; but they will make finer and more robust plants the following year, which will compensate for the little extra trouble.

Propagation from layers is rather a particular operation, and requires some care; but is the surest method, particularly for this climate; as pipings and slips are apt to damp off during the hot, damp weather of August and early September. The process is as follows: As soon as the plants have done flowering, prepare a number of hooked sticks, or pegs, about four inches long, and some fresh, friable mould, (the top spit of a good pasture is best.) Break this well with the spade, and crush all lumps; *but do not use a riddle*, as riddled soil, in this as all other cases, is apt to bake on the surface

and become sodden, particularly when used in pot culture. It were well for the profession if we had not so many lady-fingered gardeners, who are afraid to use the natural means God has given them to separate the larger lumps in their composts. They would often meet with more success in their operations, if they had never known such machines. Having pegs, soil, and a good sharp knife ready, proceed by stripping off a few of the base leaves from the bottom of each side shoot; then gather the leaves of each carefully together, and cut a little from the tips. This latter is of service, as it reduces the spread of the "grass," and enables you to lay a greater number in a short space, while it does the layer no harm. Next, take the layer between your thumb and finger, and cut a longitudinal slit upwards, beginning about four joints from the crown, and immediately below the joint, carrying it up to near the next joint, commencing at the outward surface, and slitting straight up the centre; bring this down to the surface of the ground, having previously loosened it a little, and place a peg so as to keep it in its position. In this way proceed till all are pegged down, and then cover nicely with soil an inch or two, care being taken that the slit remains open. When the layer is thus covered, place the head somewhat erect, but be careful not to break it off, as it is easily done. Towards the latter part of October these will be finely rooted, when they may be taken off and planted out in a cold frame a few inches apart, or placed in five-inch pots, (two or three in each,) that they may be protected during winter; for though they are hardy, it gives greater security, as rabbits and such like animals are very fond of them.

Propagation by pipings is performed by taking the side shoots, about four joints

from the crown, cut smoothly just below the joint, and either cut a longitudinal slit upwards from the bottom, or leave it without, (I have been equally successful both ways;) take off a portion of the tops, and plant two or three inches apart, under a hand-glass or frame, in a cool, shady situation; examine them occasionally, and take off it any that are mildewed, or damp off. Uncover them occasionally in the mornings or evenings, when the atmosphere is not arid; this will invigorate them, and prevent them fogging off. In the fall they may be taken up, and treated in the same way as the layers. This method is useful when there are more shoots than can be layered.

Propagation by slips is performed by slipping off, immediately after flowering, the side shoots at the base, carefully smoothing over with a knife the base of the slip. These may be planted out, four or five inches apart, in a cool, shady place. This process is the most simple; but layering is the most certain. It produces better plants, and is altogether more satisfactory.

Culture.—The Carnation does not require a very rich soil, though some stimulant is necessary. Too rich a compost causes the colours to run, whereby much of their beauty is lost. Some florists recommend mysterious nostrums; but as I deal not in superstition, it will only be necessary to follow common sense as nearly as possible, and advise what is sure (from experience) to lead to success. Take one-sixth each, well rotted horse and cow manure, and mix with the top spit of a good hazelly [free-loam] pasture. Work them well together the summer before planting; turn over once or twice in the winter. Towards the middle of March, or beginning of April, commence by taking out the original soil about one foot deep, and fill up with the prepared earth. Smooth over the surface

and plant, placing three plants about six inches apart, and between each patch about eighteen inches. By this mode, there is room left around each patch for your succeeding layering, while the general effect is not spoiled. If the weather is dry, give a good soaking of water, but not unless it is; as the Carnation is impatient of moisture when fresh planted. Some persons grow them all the season in pots, as most of the English florists do,—placing three plants in a fifteen-inch pot, at the same time as when planted in the open ground, and arranging their plants in a triangular form, about equidistant between the side and the centre. This method is good for an amateur, or those who have plenty of time, as they can be moved about at discretion; but for general purposes, planting out in beds is preferable, as watering is in part dispensed with, and much labor saved. They will soon begin to send up their flower stems, which should be carefully tied to slender stakes as they advance. Take care, however, not to tie too tightly, as they are apt to break off. If it is desirable to preserve their true characters, and have the colours distinct when the flowers begin to expand, there should be an awning of some light cloth placed over the bed, to shade the sun from them. Without this precaution the colours will *run*, and much of their beauty will be lost; besides which, by shading, the time of blooming will be considerably prolonged. I purposely omit directions for getting up this flower for exhibitions, as it would be of no service to our present object; but have simply laid down directions from experience, which, if carefully followed, will lead to certain success, and which I hope may encourage the lovers of flowers to get the best varieties, and be rewarded by a corresponding gratification.

The annexed list contains ten in each

division of the best varieties in cultivation:

SELECT LIST OF CARNATIONS.

Scarlet Bizarres.

Appleby's Rainbow,
Elliott's Duke of Sutherland,
Eason's British Hero,
" Admiral Curzon,
Ely's Lord Pollington,
Colcott's Juba,
Hepworth's True Briton,
Merchant's Sir Rob't Peel,
Robinson's Joe Langsdale,
Rainforth's Game Boy.

Pink or Crimson Bizarres.

Cartwright's Rainbow,
Ely's Lord Milton,
" Major Goldworthy,
Gregory's Alfred,
Mansley's Robert Burns,
Wakefield's Paul Pry.
Hardman's Splendid,
Greasley's Lord Brougham,
Ely's Duke of Bedford,
Barringer's Masterpiece.

Scarlet Flakes.

Maude's Susannah,
Simpson's Marquis of Granby,
Wilson's William the Fourth,

Mansley's Lord Byron,
Mitchell's Patriot,
Merchant's Lovely Mary,
Ely's King of Scarlets,
" Mr. Grainger,
Chadwick's Brilliant,
Brabnall's Mrs. Abney.

Rose Flakes.

Elliott's Duchess of Sutherland,
Eason's Ocean Queen,
Barringer's Apolla,
Ely's Lady Ely,
" Lovely Anna, [shire,
Fletcher's Duchess of Devon-
Hoyle's Lovely Nancy,
Hudson's Lady Flora Hastings,
" Wilson's Harriet,
Wardman's Lady Stanhope,

Purple Flakes.

Hufton's Blue Ribbon,
Evan's Victoria,
Ely's Mango,
Brabbins' Squire Meynell,
Hudson's Miss Thornton,
Lee's Napoleon,
" Beierophon,

Turner's Princess Charlotte,
Marsden's Jolly Angler,
Mansley's Bonny Bess.

Tolworthy's Isabella,
Holliday's Bridal Ring,
Wood's Victoria,
Sharp's Hector.

Picotees--Purple, Heavy Edged.

Mitchell's Nulli Secunda,
Brinkler's Lady Chesterfield,
Ely's Field Marshal,
" Mrs. Lilly,
" Grace Darling.

Picotees--Rose Edged.

Borough's Lady Alice Peel,
Crouche's Ivanhoe,
Sharp's Comet,
Twitchett's Fair Rosamond,
Willmer's Princess Royal,
Barnard's Mrs. Barnard,
Crouche's Conservative,
Green's Victoria,
Wilson's Fanny Irby,
Robinson's Nottingham Hero,
Garrett's Lady Dacre.

Picotees--Purple, Light Edged.

John's Prince Albert,
Crask's "
Borough's Duke of Newcastle,
Robinson's Nottingham Hero,
Matthew's Enchantress.

Yellow Picotees.

Picotees--Red, Heavy Edged.

Ely's Mrs. Horner,
" Mrs. Meynell,
Sharp's Duke of Wellington,
Ben's Marc Antony,
Brooke's Duch's of Cambridge.

Barrad's Euphemia,
Martin's Queen Victoria,
Heslop's Prince of Wales,
" Marshal Soult,
Willmer's Romulus,
" Goldfinder,
Wood's Child Harold,

Picotees--Red, Light Edged.

Matthew's Ne plus Ultra,

" Eugene Aram,
Groome's Favorite,
Clark's Queen of Sheba.

I have the honor to be yours, most obediently,

WM. CHORLTON,

Gardener to J. C. Green, Esq.

Staten-Island, December, 1849.

NOTES ON THE LONDON HORT. SOCIETY'S GARDENS AT CHISWICK.

BY H. E. HOOKER, ROCHESTER, N. Y.

DURING a recent business trip to England and France, a few hours spent at Chiswick gave me so much pleasure, and proved so valuable to me, as a cultivator of fruit trees, that I have thought perhaps some of your readers, who are also fruit and fruit tree growers, might be interested in a few notes on this great centre of pomological nomenclature.

The society's grounds are divided into departments, as the kitchen gardens, the conservatories, the fruit yards and fruit room, the arboretum, &c. &c.; but as each department is of itself a complete and large establishment, and so well worthy of minute inspection, as to require more time than was at my disposal, I could only pay particular attention to those parts in which I felt most interested; namely, the fruit

quarters, and fruit room, and the arboretum.

At the head of the fruit department, I found ROB'T THOMPSON, a man who soon made me feel that a visit from an American nurseryman was not unwelcome, and whose kind attentions I shall not soon forget. The collection of different varieties of fruit in these gardens is immense; but as many tested varieties which are thought worthless are annually removed, I suppose the number does not increase very rapidly.

The specimen trees are many of them fine, and show what may be effected by skilful pruning, trenching, and liberal manuring; but all are not equally good, and among the exceptions are many of the apple trees, cultivated on Paradise stock, which have been annually *sheared*, (I call

it,) or headed-back, until they are forced to make a growth of woody shoots from every part of the tree; which shoots are in their turn to suffer from the knife in the following spring. This process gives the trees a bushy and unfruitful appearance, not creditable to the skill of the gardener. A portion of the pears worked on quince stock have also received similar treatment, but do not seem to have suffered so much from this method of pruning. They were of considerable age (25 or 30 years,) and were very thrifty and fruitful. Those trained upon the walls were particularly fine, and produced splendid specimens of fruit. But to a western New-Yorker, who is accustomed to fruits equally fine, gathered from trees which "take care of themselves," this looked like paying too much for the whistle. Peaches, also, are raised here only by great care and expense in trenching the soil, and training the trees to brick walls, heated with flues,—quite a contrast to our method of planting a shilling tree, in common soil, and, after three or four years, gathering a bushel of peaches per annum from each. In the fruit room, I found (Oct. 9th,) the collected produce of the trees; except, of course, those which had passed their season of maturity. The fruits were neatly arranged, and would there be called good specimens of the particular varieties.

The pears were decidedly good, and would compare favorably with fruits of the same varieties grown here, both as to size, colour and flavor. In fact, I do not think this fruit is so easily affected by differences of soil and climate as the apple. I found many of those varieties which are most esteemed with us, are equally fine and highly valued there; while, on the contrary, the most conspicuous varieties of *apples* upon their shelves were for the most part un-

known to me; and those which I found with familiar names, would never be recognized by us unless their natural peculiarities were remarkably distinct,—so changed, and, almost without exception, so much inferior were they to those which we see in this part of the world. This fact should make us careful of receiving the judgment of this society, upon the merits of any variety of this, to us, important fruit.

Among the pears in the fruit room, the following varieties, well known in this country, were prominent as universal favorites, and holding the same rank among lovers of good fruit there that they do here, except, perhaps, the White Doyenné, which seems more variable in quality than most others.

Beurre Bosc—fine, great bearer. Beurre Diel—fine. Beurre Capiaumont—good, great bearer. Belle et Bonne—2d quality. Duchess d'Angouleme—fine. Seckel—fine. Forelle—beautiful and good. Beurre Rance—large and good. Glout Morceau—fine. Beurre d'Aremberg—fine. White Doyenné—fine flavor, but cankers. Knight's Monarch—fine. The fruit labelled Gansel's Bergamot was a large pear, quite different from ours, and not ripe at that time. Their Autumn Bergamot is probably our Gansel's.

The arboretum, adjoining the fruit department, was much more attractive to the eye, if not to the palate, than the fruit room. In fact, I can scarcely conceive anything more beautiful than the grounds there laid out, and *kept*, in the best of style,—having a carpet of green, made as short and as soft as a rug by frequent mowing and sweeping, to form an appropriate groundwork for beautiful groups, and detached specimens of the most noted hardy trees, shrubs, &c. Among the most beautiful of

these were the *Fraxinus*, *Excelsior pendula*, *Ulmus suberosa major*, *Ulmus montano vageta*, *Quercus cerris*; and among the coniferæ—*Abies Douglassii*, *Pinus insignis*; and last, but above all, the Deodar Cedar, of which they have a magnificent specimen, about 30 feet high, in full vigor and beauty.

I understand that it is in contemplation to form a state agricultural school for New-York. I hope that you, and those who have influence in the right quarter, will make a vigorous effort to have connected with it a horticultural department, where something similar to what has been done at Chiswick may be accomplished in this country; for, setting aside the fact that no dependance can be placed upon the character of *fruits*, as adapted to this country, which have only been tested abroad, the influence of a properly and liberally conducted institution of this kind, would be incalculable; and before fifty years have passed over, this country would work many

wonderful changes in the appearance, and much to the real wealth of the country. By all means let us have an arboretum, where all can have an opportunity of comparing the merits of different species and varieties, and beholding the beauty of a perfect tree. Your truly,

H. E. HOOKER.

Rochester, N. Y., February, 1850.

[Thanks for these interesting notes. Our correspondent is quite right as to the value of a complete school of *everything relating to the culture of the soil*. The report made by the commissioners, appointed by the governor of this state, embraces all that is requisite for a complete educational establishment, for those who live in the country. All that is needful now, is that the agricultural class shall lay their strong hands on their servants—the legislators at Albany—and give them no rest till such a school is organised on a liberal and practical basis. ED.]

EXPERIMENTS IN HORTICULTURE—No. 3.

BY B., POUGHKEEPSIE, N. Y.

[WE request the attention of our readers who are *sufferers* by the *curculio*, to the successful experiment detailed in the following communication. Our correspondent, who modestly withholds his name, is known to us as one of the most able jurists in the state, who devotes his leisure to the pleasures of horticulture, and experiments in his garden with the same knowledge and precision with which he delivers an opinion on the bench. ED.]

PLUMS.—In cultivating plum trees, the great *desideratum* seems to be a sure and practicable mode of preventing the ravages of the *curculio*. Having about seventy fine

trees, of good bearing size, in fine healthy condition, and of choice kinds, I had been much disappointed to find the fruit entirely destroyed year after year. Some five or six years ago, I set resolutely to work to combat the enemy, and resorted to all the approved methods of defence which seemed to me worthy of a trial. My first experiment, was to encompass the body of the tree with a cloth bandage, which was kept saturated with spirits of turpentine, or with ammonia,—supposing that this would turn the “turk,” in his march up the tree. But I found this ineffectual; because, as I suppose, he found some other mode of ascend-

ing. I then tried salt, paving, &c.; but found nothing that proved successful until the year 1848. I then determined to enforce the *killing* system. As soon as my apricot trees were in full bloom, I examined them daily until the 11th of May, when I discovered on the first of one of the lower branches the crescent mark, which, being followed, led me to one of the insects, in the act of puncturing a young apricot about the size of a pea. I immediately captured the rascal, and corked him up in a small vial as a "specimen," and gave him to my gardener, with directions to slay all of the kind that he could find. He accordingly prepared a small fence-post, by covering the end with india-rubber and a piece of old carpet. He then spread under a tree two large sheets, and *jarred the tree* with his pounder until he brought down all the insects on it. From five trees, he thus caught twelve on the first trial. This practice was continued daily until sometime in June. As soon as the plums were sufficiently advanced, I selected forty trees, and they were treated in like manner until sometime in July.

The result exceeded my most sanguine expectations. From the five apricot trees, which had never before produced twenty ripe apricots, I had upwards of *three thousand* of the most beautiful and luscious specimens of that variety—the Golden apricot. In August my plum trees were breaking down with the fruit, especially the Imperial Gage, which bore an enormous crop. One large Green Gage tree ripened two or three bushels, and for several weeks furnished an abundance of that most delicious fruit in its highest perfection. Indeed, this tree more than compensated for the labor bestowed upon all of them.

The same system was continued in 1849, and with similar success; although the

crop was light, in consequence of a partial failure of stone fruits in this region, as well as the bearing of an excessive crop the year before.

I think I can say, therefore, from actual experience, that this is a certain and a practicable mode of saving smooth skinned fruits from the attacks of the curculio. The labor required for forty-five trees was two hours a day for about six weeks.

Perhaps I may add, that many of the preventives proposed, although they succeed under certain circumstances, cannot, in my opinion, be of much general utility; for the reason, that they are based upon unphilosophical principles. Thus, salting, paving, and manuring under the tree, and fencing around it, are based upon the idea, that the insect which attacks the tree always comes immediately from the ground beneath it; which is an unfounded supposition. The curculio is capable of migrating to a distance; it can fly over the highest fences, and is entirely proof against all such weak inventions. Otherwise, how would you explain the well known fact, that every plum is often stung on a young tree, standing alone, the *first* year of its bearing? This tree could not have propagated the insect by the falling of its own fruit. Numerous instances came under my observation last summer, where apples, and pears, and cherries were all stung, on trees which had never borne before, and which were many yards distant from any other fruit trees. In addition to that, any one, who is well acquainted with the habits of the curculio, knows that in the latter part of the season it is accustomed to fly with apparent ease. Indeed, it requires considerable expedition, after having jarred them from the tree, to catch them before they recover from their fright and take to their wings.

There is one other remedy which I have not tried, in which I have some faith. I allude to converting the plum orchard *into a hog yard*. But my faith is not founded upon the belief that the hogs destroy all the insects by devouring the fruit. For I have tried picking up the fruit most thoroughly for several years, without the slightest apparent benefit. My impression is, that the

swinish quadruped operates upon the fears of the destroyer, partly by his presence and noise, and partly by his occasionally coming in contact with the trees, and partly, perhaps, by the odors which arise from his bed. At all events, I purpose trying that experiment the coming season, and will then make public the result. B.

Poughkeepsie, January, 1850.

VINEYARD CULTURE IN OHIO.

BY R. BUCHANAN, CINCINNATI, O.

[VINEYARD culture is awaking a good deal of attention in various parts of the country; and we are, therefore, very glad to receive such practical remarks as those of Mr. LONGWORTH, and those of Mr. BUCHANAN, which follow: ED.]

DEAR SIR—Your last (Jan.) number of the *Horticulturist* contains a publication on "Vineyards and Wine-making," from Hollywood, Miss. As the process there differs, in some respects, from ours in this vicinity, I have thought that the enclosed article, written for, and published in the Patent Office Report for 1848, might perhaps be considered worthy of a place in your excellent journal. It may appear too brief and condensed; but still, it gives some idea of our mode of culture, and process of wine-making here. Very respectfully,

R. BUCHANAN.

Cincinnati, Ohio, Jan. 26, 1850.

DEAR SIR—At your request, I now give you the mode adopted by myself, and some others in this vicinity, in cultivating the vine for wine-making.

At the same time, I feel that it would come with greater propriety from Mr. LONGWORTH, to whom, more than to any other man in the west, we are all indebted for our knowledge in grape culture.

Selecting and Preparing the Ground.—A hill side, with a southern aspect, is preferred. If the declivity is gentle, it can be drained by sodded, concave avenues; but if too steep for that, it must be benched or terraced, which is more expensive.

In the autumn and winter, dig or trench the ground with a spade all over, two feet deep, turning the surface under. The ground will be mellowed by the frosts of winter.

Planting.—Lay off the ground in rows, 3 by 6 feet; put down a stick twelve or fifteen inches long, where each vine is to grow.

The avenues should be 10 feet wide, dividing the vineyard into squares of 120 feet. Plant at each stick two cuttings, separated 5 or 8 inches at the bottom of the hole, but joined at the top; throw a spade-full of rich vegetable mould into each hole, and let the top eye of the cutting be even with the surface of the ground, and if the weather is dry, cover with half an inch of light earth.

The cuttings should be prepared for planting by burying them in the earth immediately after pruned from the vines in the spring; and by the latter end of March, or early in April, which is the right time for planting, the buds will be swelled so as to make them strike root with great certainty. Cut off close to the joint at the lower end, and about an inch above the upper.

Pruning.—The first year after planting, cut the vine down to a single eye, (some leave two;) the second, leave two or three; and the third, three or four. After the first year, a stake $6\frac{1}{2}$ or 7 feet long must be driven firmly down by each plant, to which the vines must be kept neatly tied with willow or straw as they grow. Late in February, or early in March, is the right time for spring pruning in this climate.

Summer pruning consists in breaking off the lateral sprouts and shoots, so as to leave two strong and thrifty canes or vines—one of which is to bear fruit the ensuing season, and the other to be cut down in spring pruning to a spur to produce new shoots. These may be let run to the top of the stakes, and trained from one to the other, until the wood is matured, say in August or September, when the green ends may be broken off. One of these vines is selected next spring for bearing fruit, and cut down to four to six joints, and bent over and fastened to the stake in the form of a bow. The other is cut away, as well as the fruit-bearing wood of the last year, leaving spurs to throw out new wood for the next, and thus keeping the vine down to within $1\frac{1}{2}$ to 2 feet of the ground. Nip off the ends of the fruit bearing branches two or three joints beyond the bunches of grapes, but do not take off any leaves.

If both the cuttings grow, take one up, or cut it off under ground, as but one vine should be left to each stake.

Culture.—The vineyard must be kept perfectly clean from weeds and grass, and hoed two or three times during the season. Keep the grass in the avenues mowed down close. About every third year put in manure, by a trench the width of a spade, and three or four inches deep, just above and near each row; fill in with two or three inches of manure and cover up with earth.

Wine-making.—Gather the grapes when very ripe, pick off the unsound and unripe berries. The bunches are then mashed in a mashing tub, or passed through a small wooden mill, breaking the skin but not the seed, and thrown into the press, and the screw applied until the skins and pulp are pressed dry.

Fermentation.—This process is very sim-

ple. The juice is put into clean casks in a cool cellar, and the casks filled within about four or five inches of the bung, and the bung put on loosely. The gas escapes, but the wine does not run over. In from two to four weeks, generally, the fermentation ceases, and the wine clears; then fill up the casks and tighten the bungs. In February or March, rack off into clean casks. In the spring, a moderate fermentation will again take place; after that, the wine fines itself, and is ready for bottling or barrelling. Use no *brandy* or *sugar*, if the grapes are sound and well ripened. Keep bunged or corked tight, and in a cool cellar, and the wine will improve by age for many years.

Statistics.—Cost of my vineyard of six acres—fourteen thousand four hundred vines:

Trenching, two feet deep, \$65 per acre,	\$390 00
Sodding avenues,	60 00
Cost of 30,000 cuttings, at \$2.50 per thousand,	75 00
Planting,	70 00
Fourteen thousand five hundred locust stakes, at \$3 per hundred,	435 00
Setting fourteen thousand five hundred stakes,	55 00
	<hr/> \$1,085 00

Cost of attending the first year—vine dresser, \$216, and a hand for one month, \$15,	231 00
Second year—vine dresser, \$216, a hand for two months, at \$15 per month,	256 00
Cuttings after first year, to replace failures, say,	20 00
Hauling, carting, &c.,	68 00
Contingencies, &c.,	150 00
	<hr/> \$1,500 00

Average cost, say \$300 per acre,

The third year the vines will produce grapes enough to pay the expenses of that year—generally more.

For the fourth year, and a series of eight or ten years in succession, the experience of the past would indicate the following calculation to be something like a fair one:

Say, six acres, average 250 gallons, at rates heretofore, \$1 per gallon,	\$1,500 00
Deduct cost of vine dresser per annum,	\$240
Assistance, hoeing, &c.,	60
Gathering grapes and pressing,	150
	<hr/> 450 00

Net profit per annum,

To attain this, the vineyard must be favorably situated, and well attended by a competent vine dresser, and free from disastrous visitations of the rot.

The *wine press* is made something like the "screw cider press." An iron screw, two to three inches in diameter, is fitted into a strong upright frame; a tight box

platform (to be tightened with wedges,) of three inch plank, eight inches high at the sides, placed on heavy timbers; a box frame, that can be taken apart, of one and a quarter inch boards, twelve inches high, and perforated with holes, (is to hold the mashed grapes,) and loose boards to lay on top and fit inside. Into this frame the grapes are emptied out of the mashing tub—a vessel like an inverted churn.) About half the juice runs off without any pressure after the screw is applied. The outside of the cheese is cut down two or three times and thrown on the top, and repressed until dry. No straw or cloth is used. A good brandy is distilled from the pumice—or seeds and skins—after thus pressed.

Vine Culture in this Vicinity.—It is estimated that over three hundred acres are now planted with the vine, within a circuit of twelve miles round Cincinnati; nearly two-thirds of which were in bearing last year, producing, notwithstanding the rot, so injurious to many, about 50,000 to 60,000 gallons of wine.

The Catawba is our *great* wine grape, and principally cultivated. The Cape is next, though but few are planted. The Isabella is not profitable for wine, and is only raised for table use.

Mr. LONGWORTH, with unwearied zeal and liberality, is still experimenting with new varieties, and may yet find a rival for the Catawba.

R. BUCHANAN.

N. B. Some vineyards, in good seasons, have produced at the rate of 600 to 800 gallons to the acre; but this is rare. The usual yield is 300 to 400 gallons, when there is but little rot. A bushel of grapes, if well ripened, will produce three and a half to four gallons of wine.

By proper economy, a man may have a vineyard of several acres in a few years, without feeling the expense to be burdensome. Commence by trenching one acre in the winter, and planting it out in the spring; next year another acre, and so on, for five or six years. After the third year, he will have his own cuttings from the first acre, and also grapes enough to pay for the cost of planting the succeeding additions to his vineyard.

If he has suitable timber on his own land, the stakes can be got out in winter with but little outlay in money. By this course, the cost of a vineyard of six acres would not be half as much as mine.

Some prefer planting in rows, four by five; others, four and a half by four and a half; and, on level land, three and a half by six or even seven feet.

I have merely given, in the foregoing remarks, the course pursued by myself and some of my neighbors, without pretending that it is preferable to others.

R. B.

CRITIQUE ON THE JANUARY HORTICULTURIST.

BY JEFFREYS, WESTERN NEW-YORK.

Your Leader—Trees.—Mulum in parvo. The details of a volume are thus condensed into understandable shape, for anybody's every-year practice.

More than twenty years ago, Sir HENRY STUART published his admirable "Planter's Guide," containing a most interesting essay on fruit trees and park planting, with a description of his own labors in giving imme-

diately effect in wood and shade, over a large and previously naked park around his residence at Allanton. The history of his efforts produced great sensation for some years in England and Scotland; and one of the most enthusiastic and charming essays ever written by Professor WILSON, was published in Blackwood for 1828, in a review of Sir HENRY's book. I commend it

to you for republication in the pages of the *Horticulturist*, as an article every way appropriate to its pages. Another most interesting paper was published in the *Quarterly Review* for 1827, on "Planting Waste Lands;" and another on "Landscape Gardening," in the same journal, for 1828—a review of the "Planters' Guide," by Sir WALTER SCOTT—both replete with the skill, experience, and exalted taste, so eminently displayed in all Sir WALTER's rural efforts. To those who possess, and wish further to confirm a taste for tree planting, and landscape gardening, I would refer to those valuable papers. They are to be found in the "Critical and Miscellaneous Essays of Sir WALTER SCOTT," vol. 3.

Sir HENRY STUART's volume was republished in New-York about twenty years ago by GRANT THORBURN; and to such as wish to plant *large* trees in the proper mode, it will be a useful book of reference. But let such planter take *your* advice, and plant only in winter, with large balls of earth around the roots. *In such way only*, in our climate, can he expect to succeed.

A Note on the Curculio, &c.—Good. I trust that Mr. CLEVELAND will pursue his "Notes." These memoranda are just the thing for us, who "live to learn," as well from the experience of others as from our own.

Window Green-Houses.—I affect not these exotic affairs much. But the strong vein of good practice, on the general principles of cultivation, running through this article, commends itself to the attention of every reader.

A Note on Vine Borders, No. 1.—I am glad to see this article. Such discussions, where investigation on true principles is pursued, always leads to good results. If my good friend, the DOCTOR, should get

upset in any of his propositions, no one can better right himself than he, nor commence anew with stronger resources for another controversy.

Mr. COMSTOCK, however, states one fact which is to me rather new. He says—"We know, also, that if the roots of growing trees be covered with several feet of soil, they certainly perish in a year or two." *Per contra*, I must state, that in repairing a cellar floor not long since, I found the roots of a willow tree which stood some twenty feet from the building, that had worked six feet under ground, and below a three foot stone cellar wall, through a most adhesive clay soil,—the roots all green and alive when the floor was taken up. Can Mr. C. be correct in his position? * Roots of distant, moisture loving trees have also been found creeping through the walls of a well, many feet below the surface. But, I leave him for the kind attentions of Dr. STEVENS, who, I dare say, will attend to "his case."

A Note on Vine Borders, No. 2.—Mr. COLT always "goes it strong;" and of his new grapevines, with his dead cats, dogs, and horses, in addition to the lime, charcoal, soap-suds, *et id genus omne*, don't get "enough of it," I hope he will inform us. How, my good friend, would your delicate Alderneys flourish in the rich, creamy qualities, and corresponding quantities of their milk, with such a surfeit of forced food as you propose feeding to your grapes? Would'n't they at once go into a fever of plethora and indigestion?

When you finish that new vinery, will you be so kind as to send a plan of it, with the cost in items, to the *Horticulturist* for publication? I have a friend or two who want to build, and are anxious to know the

* Quite correct in the majority of cases; though some few trees are apparently not affected by being buried six feet deep. Ed.

cost. Meantime, I may take a ride out to Paterson, and look at it.

Editorial Note to Critique, page 311.—Not exactly so, my dear sir. I contend that a cellar kitchen, besides being "damp, dark, and dismal," is more expensive, when carried out in all its necessary appointments of closets, scullery, larder, wash-room, &c. &c., with its excavated areas for light, drains, and sinks, than a separate addition to the main house on the ground level.

It is no apology—gentlemen, who are about to build—for mean and inconvenient kitchen arrangements, to an otherwise agreeable country house, that they cost less than good arrangements. Every house-keeper either knows, or ought to know, the influence of such matters on servants, to say nothing of the inconvenience to themselves. And besides, what business has any one with "*two parlors, and a library,*" who, to save the expense of appropriate accommodations for his servants, is willing to submit to their tracking half a dozen times during every twenty-four hours up and down his front and only flight of stairs, and indecently pens them up together, male and female, in the attic? No, no. The place for *men* servants is on the lower floor, or over the kitchen in the rear part of the house, for safety to the premises as well as propriety. The *girls* may go up stairs, and into the attic, if you have one; and there should be *back* stairs for that purpose, and for the accommodation of the "chamber work." And one who, professing to live *genteelly* in the country, cannot afford such accommodation, ought not to build at all. He may *buy* a house thus constructed, but should alter it at once, as he will soon find it necessary to do, if he inhabits it. If our architects will only get into the way of planning economical *upper* kitchen structures to their houses, there will be no ob-

jection on the score of cost to any one who is a correct judge of convenient household arrangement.

While on this subject of house-building, I may as well say my say out, and make a clean breast of it. There are two sorts of house built in the country by city folk, neither of which have any business there, as in proper keeping with the circumstances and habits of the American people at large. And the first is your "cheap," buckram, show-case affair, flimsily built, after the fashion of some European castle, mansion house, hall, or villa, stuck out, all by itself, like a bishop or a castle on a chess board, and hung all over outside with the gingerbread toggery of a pretender, and then painted "snuff colour," of any shade, from Scotch "Rappee" to Lorillard's "Macca-boy," having neither good taste nor propriety to recommend it—as a great many modern country houses are—apparently without object or purpose, and—of inevitable consequence—owned or inhabited *in such condition* by no one body for any long time together.

The other is, your huge, expensive, castellated affair, built by some mushroom of fortune, for the purpose of distinguishing his name,—possessing no *personal* qualities in himself, wherewith to distinguish his house, and, in the great majority of cases, impoverishing his family or his creditors—as the case may be—by his folly; and only, in the long run, to his own mortification and misery. The following remarks, which I take from a late number of the London Mark-Lane Express, are so much to the point that I extract them, as infinitely more applicable to this country than to England, where family wealth is more permanent, and landed estates more stable than here:

"It is so usually a course to begin at the wrong end of a business, that one experiences an almost

unexpected pleasure when the natural order of things is occasionally respected. One of the tastes of the age is a taste for those showy and durable improvements of which brick and mortar, stone and stucco, are the principal ingredients. Ours is a building age. Wherever you go, new churches, new mansions, new townhalls, new schools, and public buildings of all kinds meet your eye, not to speak of the new creations and new style which the railway has brought in. There is scarcely a family of rank, of wealth, or of standing, which has not overbuilt itself. Everywhere you see houses and castles too large for their owners, unfinished, neglected, consigned to a housekeeper or a gardener, and answering no other purpose than to chastise the pride of the founder or immortalise his folly. You see a wealthy and prosperous man—fortunate in his family, his connexions, his character, and in every other earthly material of happiness; he is a man to single out from ten thousand—a man to be envied and admired; but you need not wait for the period Solon asked for before you can pronounce him altogether happy. There is a load on his spirits which he can never shake off. Though he refuses to think of it, and it is never mentioned in his presence, it sits as a nightmare on his soul, and, like the distant boom of artillery, is felt by the inner man, though it reach not the bodily senses. He has built a great house. It cost him £20,000, and he would gladly give another £20,000 that its site were the level greensward, or that the merry plough was passing over its foundations. From first to last it was a series of blunders. The site, the size, the arrangement, the style, the decorations, the estimates, the choice of architect and builder, have all proved unfortunate and mistaken. His wife hates the house. His eldest son swears he will not live in it. His younger sons abominate the hobby which has stinted their allowances. Such is the use to which £20,000, or five times that sum may be applied, and has been applied in a multitude of instances."

For 20,000 pounds, the American may read 20,000 dollars; a sum double the amount which any sensible man of moderate landed estate should spend in a country house in America.

The family mansions of WASHINGTON, at Mount Vernon, the ADAMSES, at Quincy, of JEFFERSON, of MADISON, of JACKSON, VAN BUREN, of HARRISON, and TAYLOR,—some of them quite wealthy men, and the others reasonably so,—neither of them cost scarce over 10,000 dollars, and some of them not half that; and those eminent chief magis-

trates, rich in the high honors of a nation's admiration, were and are gentlemen of large hospitality. To them we may add hundreds, in the past and present age, of the most eminent names in our country, whose plain, dignified, and unaffected style of dwelling should be a sufficient example for their countrymen. Even the great manor houses of the elder LIVINGSTONS and VAN RENSSELAERS, whose acres counted by tens of thousands, gave them almost unbounded license in the amplitude of their mansions, are thrown altogether into shade by the garish splendor of the men of yesterday, who appear to lay their chief claim to distinction and notoriety in the gew-gaw extravagance of their country establishments,—outbuilding by far even the solid, yet quite sufficient retirements of such *real* millionaires as the GIRARDS, the ASTORS, the BROOKS, and the PERKINS, who preferred the sensible repose of country life, when in the enjoyment of it, to the exhibition of a "show-place," for the amusement of a gaping public.

Rely upon it, Mr. Editor, this building mania will take a turn "one of these days."

The Northern Sweet Apple.—I am glad to see it; a further proof that almost every climate has its local fruits, best adapted to its particular latitude. Like the delicate and rich "Pomme Gris," of Canada, this "Northern Sweet" may be a better fruit in the region of Lake Champlain than at two degrees further south. Its description is that of a most superior apple.

Rustic Arbors.—Sensible, and to the point. If everybody will take the hints so well pointed out here, our sight will be seldom offended by the tawdry abortions which some over-nice people are perpetually spending their time and money for, so out of all taste and keeping.

Vineyards and the Art of Making Wine.

—Wine-making will, ere long, become an important department of American production and industry. The indefatigable Mr. LONGWORTH, and the Germans of southern Ohio, are making rapid advances in the cultivation of the proper grapes, and their manufacture into wine. Excellent specimens of domestic champagne, and the dry, light Rhenish wines, are already produced by them; but whether we shall ever see the choice Southside Madeira, Sherry, Claret, and Port wines produced in America, is problematical. All wines have their peculiar soils and localities; and it is hardly worth while to say that we may not have in the United States the very soils, climates and grapes, to produce them in as great excellence as they now are made in Europe. Let the work proceed. If we must drink wine, better make it at home than abroad, provided we can make it *good*.

Draining Warms the Soil.—To be sure it does, as every one must know who has seen its operation. English agriculture has doubled its productions by draining alone; and any stiff soil, which lies in a neighborhood where a free and open soil is worth fifty dollars an acre, will pay for it in the two first crops after the draining is completed. To test the matter, let any one who is planting upon, or cultivating a stiff, clammy soil, or a wet, springy one, try an acre, or but a few rods, and he will effectually prove it. We shall soon make drain tile cheap enough in this country, to bring draining measurably within the reach of every farmer who desires close and profitable cultivation. JOHN DELAFIELD, Esq., of Seneca county, formerly of New-York city, last year imported a tile machine from England which works successfully, and for which he deserves the gratitude of his countrymen. I trust we shall soon hear of

successful efforts at draining in his neighborhood.

Report of the Congress of Fruit-Growers.

—Well, that is handsome! Why, when folk undertake to do a clever thing, don't they carry it out? When the New-York State Agricultural Society invited the American Pomological Convention to assemble at Buffalo, in 1848, they not only provided an expert short-hand reporter for them, at an expense of a hundred dollars, but also devoted another hundred dollars to print and disseminate its reports. And now, after claiming all the glory for its liberality in patronising the "Congress," the American Institute *sneaks* out in this way. The sooner the "Congress" take their own affairs into their own hands, the better for their interests. There is nothing like "carrying round the hat," at the time, for all such purposes.

Smokehouse Apple.—I don't like it. 'Tis a great, coarse, spongy thing, fit only for "sauce" and drying; that is, the specimens I have seen; and they are said to be true. Let the fruit be brought before some *responsible* pomological body, and examined before its reputation goes forth to the world upon the *ipse-dixit* of one or two partial propagators. [We doubt if JEFFREYS has seen the true variety. Ed.]

Building Vineries.—By all means, "Philadelphia Subscriber," send your expense account to the Horticulturist, when the vinery is completed. You don't know how much we have to pay "thro' the nose" in all these out-of-the-way structures. A proper plan, once made, and the items brought down to a specific rule, vineries can as well be built by the running foot as brick or stone wall, or the much heavier structures, —a block of city houses of given dimensions, so much each—all fit to move into. It does appear to me that if some clever man will set himself at work, and obtain a

correct model of a cold vinery, which he can easily do, of any one *experienced* in such matters, and establish himself as a builder of them, and go over the country where required, he may do a good business. Hundreds of men, now ignorant of the entire subject of cold-house vineries, will adopt them if they can only find one who can "put them up to order." I must talk with some one of your master mechanics on the subject; and he, in conjunction with a

practical and an *honest* gardener, who would furnish none but *good* vines, and transplant and start them properly, might do a stirring business. But integrity and skill are both required for such an undertaking; and without them, and the proper endorsement to such effect by responsible men, they had better stay at home. I really wish, some one or two men would undertake the subject. They would find their account in it.

JEFFREYS.

CULTURE OF CINERARIAS AND NEW VARIETIES.

BY JOHN CADNESS, FLUSHING, L. I.

SIR—Parsons & Co., the past summer, received from London six of the most select Cinerarias then out; and as they are now in bloom, and something new in their way, I forward you a description of them, with a few remarks upon the cultivation of the Cineraria, and also to notice two fine seedlings raised here, which compare very favorably with the imported sorts, of which the following are the names:

CINERARIA—Attila.—Petal white, tipped with rich, rosy purple, profuse bloomer, and very showy.

Joan of Arc.—This is a most beautiful thing; petal pure white, tipped with rich, bright blue, small disc, and good habit; flower well cupped.

Beauty of Newington.—This is one of the very finest now out, and the best of its class. The flower is of full size, well cupped, and fine form, dark disc, surrounded with white; petals deeply margined with crimson, terminating at the points with crimson purple; good habit, and excellent show flower.

Speciosa.—Fine crimson, something after the fashion of *Waterhousiana*, but much

richer color, larger and better formed flower; habit rather dwarf.

Apollo.—This is a very fine variety, of a rich, deep indigo blue colour, good sized flower, very dwarf habit, and abundant bloomer.

Resplendens.—This is a very rich, bright crimson, and a superb flower, fine robust habit, very small disc, large and finely formed flower, large and well arranged truss: the best of its class. The colour is most brilliant.

SEEDLINGS.

Beauty of Flushing.—Pure white, with small dark disc, tipped with bright crimson purple; the flower not large, but good form; abundant bloomer, foliage unusually small, habit excellent, and colours very bright. It is a very desirable variety.

Queen of the Virgins.—Pure white, with light purple disc, finely edged and tipped with delicate rose. It is an elegant thing, and forms a fine contrast with the dark sorts.

These are all of the herbaceous class, and are a decided improvement, and far superior to all the sorts known and culti-

vated here. The improvements effected are plainly shown in the reduction in the size of the foliage, a more abundant show of bloom, with strong, erect and branching flower stems, finer formed truss, broader and better formed petal, smaller disc, colour and markings pure, and more distinct, with increased size of the flower, which, together with their many shades and variety of colours, make them worthy of a place in the most select collection of plants.

In England, the *Cineraria* is a universal favorite; and lately a good deal of attention has been paid to the raising of new varieties by hybridizing, and many new ones now make their appearance every season,—each exhibiting points of improvement, either in colour, form or marking, and we find five shillings a common price; and several are now advertised to be sent out the coming season at half a guinea each. They now occupy a prominent place at all the floricultural exhibitions, and deservedly so; for there are few plants of so easy culture, possessing such a variety and brilliancy of colours, and such profusion of bloom. For decorating purposes in the green-house, or for the parlor window, it is one of the most useful plants we have. They may be had in flower through all the winter months. By proper management, a succession of bloom may be kept up from December until June, and with very little trouble.

But it would seem, from the miserable and neglected appearance of the specimens we generally meet with, that little interest is taken in their culture, and that the *Cineraria* has but few admirers among us; but now they have been so much improved in every point, and so many really fine varieties introduced, we hope soon to see them as generally and as well grown as the *Geranium* and *Fuchsia*, especially as their culture is so simple.

After the plants have done blooming, remove them to a shady place, giving them just water enough to keep them alive. In the early part of August I repot them, to start the young offsets into growth, from which the stock for the coming season is to be raised, shaking all the old soil from the roots. Pot them in a light rich soil and place them in a frame, keeping them rather close and warm until they begin to grow, which they will soon do, when the young shoots should be carefully divided and potted into small sized pots, and again removed to a frame, and kept close and shaded until they are well established, when they will require plenty of air, and to be kept close to the glass,—shifting into larger pots as they require it. When fine specimen plants are desired, a little more than ordinary care and attention will be necessary; and for this purpose the strongest and best plants should be selected from the young stock, and a strong, luxuriant growth should be encouraged as much as possible, giving them plenty of pot room, and good drainage, being careful to repot them the moment they have filled their pots with roots; for if they once become pot bound, their growth will be checked, and they will commence to develop their flower stems before they have attained any size. Some care is also necessary in watering; they should never be allowed to flag for want of water; it causes the loss of a great part of the foliage, and consequently ruins the blooming; the flowers will open unequally, the flower stems will also be weak and unequal, and the whole plant without that symmetry and form which would be exhibited under good treatment. There is another very important thing to be attended to, which is, that the plants be kept perfectly free from green fly; an insect to which they are very subject, and

which increases upon them at a most astonishing rate. It will therefore be necessary to fumigate with tobacco very frequently, and the best plan is to begin in time; for this pest is injurious alike to all plants—to the *Cineraria* especially; and none need expect good formed flowers, or clean healthy foliage, who are not particular in this matter.

After the plants begin to throw up their flower stems, a watering twice a week with manure water will be found greatly to assist them in expanding their bloom, and also

to increase very much the size of the flowers. At the time the flowers begin to expand, the plants should be kept rather close, and the temperature raised a little, in order to bring out as soon as possible the whole mass. As soon as fully out, they should be kept cool and shaded from the mid-day sun; by which means they will retain their beauty and the brilliancy of their colours a much greater length of time. Respectfully yours,

JOHN CADNESS.

Commercial Garden, Flushing, L. I., Feb. 12, 1850.

THE FREDRIKA BREMER PEAR.

BY J. C. HASTINGS, CLINTON, N. Y.

THIS new pear, which has lately been a good deal talked of among pomologists, was brought to the notice of fruit-growers by J. C. HASTINGS, Esq., of Clinton, Oneida co., N. Y. At the last meeting of the Pomological Congress in New-York, it was exhibited and examined by the committee on seedling fruits, but no opinion formed of its merits, as it was not then ripe. Since that time, Dr. BRINCKLE, of Philadelphia, the chairman of that committee, has written us that his specimens, when ripened, proved it to be "a most delicious pear;" and other pomologists of experience have rated it equally high.

Mr. HASTINGS obligingly sent us specimens of this fruit. When these matured, about the middle of October, we found the pear in appearance smooth, fair, and pale yellow in colour; in texture, fine grained, melting; in flavor, sugary and very agreeable,—far superior, indeed, to any new foreign variety that we tasted in '49, and worthy, as it appeared to us, to bear the name of the most interesting woman of the age.

We made a description and outline of the fruit, but by some accident the paper was mislaid, and we owe the following notice of it to the kindness of Mr. HASTINGS.

It is not possible to determine the value of a new variety upon a single year's experience; but, as Mr. HASTINGS informs us that the specimens we received were not of average size and quality, and were yet what, in the new pomological standard, would be ranked very good, we have little hesitation in predicting that this will take its rank among our finest American pears. ED.

A. J. DOWNING, Esq.—*Dear Sir:* Your favor reached me last evening; having been directed to Utica, it was detained there. I am sorry to learn that your outline and description of the pear are lost, as I should much rather see your description than attempt one myself. I will, however, cheerfully try to comply with your request. I send you herewith a drawing, taken from my book, and a copy of a memorandum there entered. It may not be as full a de-

scription as you would like. The outline I send you is about the average size, as near as I recollect, in ordinary seasons.

This season the fruit was smaller than I recollect to have seen it before, owing to the severe drouth of last summer, which affected all our fruits.

The fruit is usually pretty uniform in size,—there being but few small ones, and is what I should call large. I have a memoranda of specimens, weighing 16 ounces; but few, however, attain this size.

My attention was first directed to this pear some four or five years since, by seeing it offered in market as the Virgalieu. Knowing it was not the Virgalieu, I took home some specimens to ripen,—being struck with the size, rather than the appearance of the pear, although the smooth skin and its fine texture indicated that it might be a good fruit, when, at maturity, I was pleased to find it really a good, fine flavored and melting pear. In the fall of 1848, I sent specimens of it to your brother for exhibition at the fair of the American Institute. I saw it mentioned in the published proceedings as a seedling pear, and hearing nothing more from it, concluded it was passed over, and not noticed, as it was not ripe when sent. I should not probably have sent it again, had not your brother when at Syracuse, at the state fair last fall, questioned me upon the subject. From his questions I know it had not escaped his notice, and I further surmised that he thought well of it, although he was not so decided in the expression of his approbation as some others have been. I however determined that I would send it to him again, to be presented at the late sitting of the fruit congress in

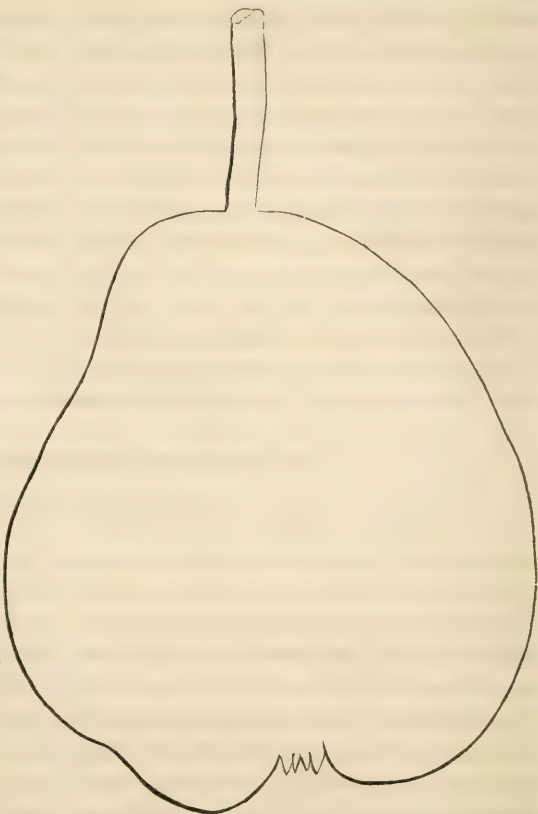


Fig. 102.—*The Fredrika Bremer Pear.*

October last. I did so, with the request that he would have some of the specimens preserved until at maturity, and then try them. As I was packing the fruit, a lady present knowing its destination, suggested, as Miss BREMER was about to be your guest, the affixing of her name to the pear. I readily adopted the suggestion, and wrote you to that effect; *provided* you thought well of the fruit on proving it. Since that time, I have had letters from three or four of the committee on seedling fruits, to whom specimens were given to keep, giving their approval of its good quality, and confirming its name.

The following is the description from my memorandum book: Season—October and November. Fruit—large, remarkably

smooth, and free from knots or irregularities; uniform in shape. Skin—dark green when picked, changing to pale yellow when ripe. Stem—rather more than an inch long, *not* deeply set, in a cavity which is rather highest on one side. Calyx—small, closed, set in a narrow basin. Flesh—white, free from grit, melting, fine, buttery, sugary, relieved by a slight acid. Flavor—pleasant.

The pear is but little known in this vi-

cinity, though the owner of the original tree informs me it was grown from seed brought from Connecticut more than forty years since, and has produced fruit a great number of years. I have not put the above in form for publication; but have, in a rather hasty manner, presented you with such facts as have occurred to me in regard to the pear, which you are at liberty to use as you may think proper. Very sincerely yours.

J. C. HASTINGS.

FLOWERS FOR THE MILLION.

BY T. S. GOLD, CREAM HILL, CONN.

DEAR SIR—It is one of the objects of your journal (and it ought to be a prominent one) to diffuse a taste for, and a knowledge of those beautiful and hardy plants, which must ever be *the flowers* for the great mass of our people. It being altogether beneath the notice of those who can indulge in their green-houses, and by the aid of professional gardeners enjoy plants which may be too delicate for general cultivation, I have thought that a few lines from one who has not reached that pitch of refinement, yet does admire the luxuriant productions of Flora, which in their *season* may be enjoyed by all, at a cost so small as to need no consideration, would be acceptable to many of your readers.

Young persons are almost universally fond of flowers, and would continue so, were not this taste checked by many rebuffs; among these, since they often receive no aid from older persons, is the difficulty of obtaining new varieties of flowers, as many of those in common cultivation are really unworthy of the place they hold. Perchance some city friend sends them a package of seeds from a seed-store, or,

obtaining a catalogue, they attempt, from what they suppose to be all grain, to select some *wheat*. At length the seeds are sown with much hope, but one half do not vegetate, or they come up so delicately that they are overlooked, and but a small portion of the remainder reward the grower by their thrift and beauty. This difficulty would be obviated if our seedsmen would confine themselves to really fine varieties, or at least make them prominent in their list. Thousands of the wives and daughters of our farmers, and others in the country have really a taste for these beauties of nature, which but needs to be awakened and instructed, to cause the cottager's little plot of ground, as well as the precincts of the farm-house to glow with the beauty and brilliance of the costly parterre.

To aid in so good a cause, which should receive the support of every lover of the country, and especially of our country, I propose to give a short list (by no means complete) of those hardy flowering annuals suited to this locality, which I have myself cultivated, with a brief description of their character and appearance. Soil and

climate have much to do with the growth and beauty of flowers, and my remarks will apply to the northwestern part of Connecticut, with a soil moderately warm and dry, but with a tenacious subsoil.

PHLOX DRUMMONDII.—This is a spreading plant, about one foot high, flowers in large clusters, of various rich shades of red [and white, Ed.] This is an *essential* in the *smallest* collection.

ESCHOLTZIA, CROCEA and CALIFORNICA.—Differ very little from each other; spreading; about one foot high, with large yellow, and orange flowers. The finely divided leaves of a bluish green preserve their rich colour through the drouth of summer and the frosts of autumn.

ERYSSIMUM PEROFFSKIANUM.—Upright; about two feet high. Its colour is a deep orange, and, what is peculiar for a yellow flower, it has almost the same odor as the Stock Gilly.

GILIA, CAPITATA and TRICOLOR.—These grow a little over a foot high; spreading. The beautiful and finely divided foliage, and abundance of its delicate flowers, compensate for their small size. The latter is the most beautiful.

CLARKIA, PULCHELLIA and ELEGANS.—These species differ but little. The pulchella blooming most abundantly, and being the most dwarf, rarely growing one foot high: its colour is fine pink, of peculiar shade. [Succeed best if sown in September, Ed.]

BALSAMINA HORTENSIS—*Double balsams* or *lady slipper*.—The common varieties of this plant are too well known to need notice, but they bear little comparison with the vast variety of shades possessed by the double and mottled kinds. A rich strong soil suits this plant, and where it can have plenty of room it grows several feet in height. The first frost deprives it of its beauty.

IBERIS, CORONARIA and UMBELLATA.—*White and purple candyluft*.—The first is a low spreading plant, the other more upright but scarcely ten inches high—both bear an abundance of small flowers.

RESEDA, ALBA and ODORATA—*Mignonette*.—The flowers of both are small, but their delicate appearance, and the peculiar fragrance of the latter will always render them favorites. The first grows often two feet in height, the latter trails on the ground.

OCCYMUM BASILICUM—*Sweet basil*.—This makes no pretention to beauty, but the delicate fragrance of its leaves, which can be compared to nothing but itself, render it an essential addition to every bouquet.

LATHYRUS ODORATA—*Sweet pea*.—This is too well known to need any description. Like other peas, it does best sown very early; there must be enough of them together to support and protect each other, to have them appear in all their beauty.

ALYSSUM MARITIMUM—*Sweet alyssum*.—A spreading plant, covered with a profusion of small white flower-, of delicate fragrance. It grows low and does not like the shade of other plants; blooms from July to December.

NEMOPHILA INSIGNIS—*Blue Love-grove*.—A delicate retiring little blue flower, seeming to prefer the shade. It resembles the violet in its habit, and like it, seems unwilling to yield to the approach of winter.

CONVOLVULUS TRICOLOR—*Dwarf convolvulus*.—Give this plant plenty of room and it will cover the ground with a profusion of large flowers, the edges of which are a rich blue, shading into orange, with a white centre. This is one of the richest ornaments of the flower garden, as the size of its corolla, rich colours and abundant blooming ever attract attention. The variegated variety, which is a climber,

answers well to cover a wall or small arbor, but is too rambling for a flower garden.

LUPINUS NANUS—*Dwarf lupin*.—The pretty foliage, as well as the abundance of its blue flowers, entitle this to a place even in a small collection.

SILENE ARMERIA—*Catch-fly*.—An upright grower, about one foot high, crowned with an abundance of bright pink flowers.

SCABIOSA ATRO-PURPUREA—*Mourning widow*.—A branching plant about two feet high, flowers of a rich purple. [There is a pretty variety—pure white.—ED.]

COREOPSIS TINCTORIA—*Golden coreopsis*.—This grows about two feet high, bearing an abundance of fine yellow starlike flowers with purple centres.

SCHIZANTHUS PINNATUS—*Cut leaved Schizanthus*.—A delicate spreading plant with curious but not very showy flowers, blooming a long time.

GOMPHRENA, GLOBOSA and ALBA—*Globe amaranths*.—Rather stiff, upright plants, but as their flowers when picked will retain their freshness any length of time, they are worthy of cultivation.

DIANTHUS CHINENSIS—*Double China pink*.—An upright grower, and forms a pretty border, as it keeps green to the ground and does not ramble about.

DELPHINIUM AJACIS and ROSEUM.—The first is delicate and not always thriving, yet sometimes rivaling in beauty with its single spikes of double flowers the hyacinth. [If the seeds are planted in August, the finest beds may invariably be had.] The other is a more rank grower.

VIOLA TRICOLOR—*Hearts-ease or pansy*.—This already has a place wherever there are flowers, and may it ever continue to hold it. Some of the new varieties may properly stand by the side of the old ones,

but they will never supplant in our affections the "Jonny-jump-ups" of childhood. Even now, Feb. 11th, they are peeping out and showing their smiling faces from under the snow drift.

PORTULACCA, PURPLE and SCARLET.—This which I name last, and whose seed is least, deserves a *good* place in every flower garden. Like its relative, the weed purslane or puzly, it requires the bright sun for its perfection, thriving best when planted on a dry exposed bank. The richness and abundance of its large flowers, produced by a plant so small as to hardly be noticed when they are shut, will make this a general favorite. Its seeds look like little particles of steel, and are so small that they must be covered very shallow or they will not vegetate.—[Two new varieties, one pure white, the other yellow, may now be had at the principal seed stores.]

These annuals, with few exceptions, come into flower early, (last of June) and continue in bloom until the hard frost of autumn or winter. In cultivating these varieties, let each kind have plenty room by itself; they will not only thrive much better, but the peculiarity of each plant will appear, and greater variety will be the result, than when mingled.

There are, undoubtedly many other varieties which are equal in beauty and hardiness to these, and I should highly esteem an addition to this list from some one in our northern latitudes.

If you desire it, I would furnish a list of fine, hardy perennials, and also of those annuals, which, for various reasons, I have found unworthy of cultivation.—[A very good selection for the million, and we shall be glad to hear from you again. ED.]

T. S. GOLD.

Cream Hill, Conn.

NOTES ON HYBRIDIZING VEGETABLES.

BY R. B. LEUCHARS, BALTIMORE.

IN continuation of my paper on the improvement of culinary vegetables, it may be useful here to make a few remarks upon the changes that have been effected upon certain plants by hybridization, as well as the peculiarities which appertain to the union or amalgamation of properties and characters so entirely opposite to each other, as we very often find them, in species of the same family, and which, by hybridization and reproduction assume new forms and characters. The elements of the parent plants would appear to be decomposed, and converted into new substances.

Whether the changes thus effected in the principles and characters of vegetables by culture and hybridization, be the result of a law in the economy of vegetation, or merely the temporary effects of certain causes, known or unknown, I am unable to say. Some of these changes are so regular, and so easily effected, that we might very reasonably suppose them the result of a fixed law in the economy of vegetable life, yet there are many others which as readily revert to their original types, as soon as the producing causes have been withdrawn or overcome. The pea, for instance, (of which I shall speak more fully,) speedily degenerates, unless cultivated with care, and new varieties produced; and in other plants, we find the most unvarying regularity under all circumstances;—their juices, and other habits regular and uniform,—some sweet, others bitter, some acid and others tasteless;—nor can these principles be altered by any culture or contrivance of ours to affect that end. For example: the wild sorrel is still the same, under any con-

dition in which it is placed, and even if nourished entirely with sugar and water, it will nevertheless secrete its acid, and be the same sour vegetable it was while growing in a ditch by the-way side. Some plants will absorb only those salts which are peculiar to themselves, and will die if forced to receive into their system others that would modify or ameliorate their peculiar taste. If a plant of mint, or of the common raspberry, be placed in a solution of various salts, they will each absorb the salts peculiar to themselves, while the others, although likewise in solution, will be rejected.

On some plants the effects of mere culture alone have been unavailing in improving on their primitive type. The wild carrot is not affected by it, and the dandelion retains its acidity in spite of high cultivation. There are other causes, however, besides mere culture, that contribute to the improvement and change of garden vegetables; the greatest of these are artificial; and, what is generally termed accidental *hybridization*, and from attentively studying the subject, I have come to the conclusion that this cause alone has contributed more to the multiplication of varieties than any other. The progress of wild plants from their primitive state to that in which we find them in our gardens, is by cultivation alone, comparatively slow; but where the properties of one are mingled with those of another in the same genus, the product is sometimes astonishingly different. The order *Solanææ* presents some striking examples of this; so, also, does *Leguminosææ* and many others. In-

deed, the most of our culinary vegetables, and many of our finest fruits and flowers have in this way been obtained. The impregnation of the parents may have been unknown to the growers, as well as the method in which they obtained the pollen of the fecundating kind, or exercised their functions in the operation. In some plants we have the principles and properties of two very distinct species united and increased in a very remarkable manner. There seems to be an alteration of the laws of secretion and structure entirely beyond the power of the analyst to understand. Here we cannot fail to admire the wisdom of nature, and the perfection she gives to the instruments she employs. Notwithstanding the multiplicity of the operations continually going on in plants at the same time, and the variety of different and even opposite substances formed out of the same ingredients, and almost at the same time, every thing goes on without the slightest disorder or confusion—no two operations clash,—there is no discord, no irregularity, no disturbance in the performance of their respective functions,—every thing is accomplished that has been designed, and every thing is ready for its intended purpose.

But although the creation of a new variety, and the form under which it appears, be essentially due to the plant itself, and its inherent powers of modification and reproduction, art is not without its influence upon it, when properly exercised, as is abundantly exemplified in the artificial hybridization of different species of the same genera, and even different varieties of the same species; and as all species and permanent varieties, evidently owe their existence to the seed formed by fecundation, and this being not only the most common, but the most natural system of reproduc-

tion; to this system, therefore, my present remarks will chiefly relate.

It is a remarkable fact that the most valuable varieties of our culinary vegetables have resulted from *accidental* hybridization; this operation having been performed by the wind or by the ever-busy family of insects which fly about from flower to flower, conveying the pollen of one to the stigma of another; and, on examining the subject attentively, it will be seen how slight is the chance of this operation being performed by these means, so as to give rise to distinct sorts, yet such undoubtedly is sometimes the case. How often do we observe in a plot of cabbages or field of turnips, a dozen or more distinct varieties produced solely by this cause, although the seed had been obtained pure, from one variety only.

The greater the difference between the species of the same family, growing together and flowering at the same time, the more likely will there be a distinction in the plants produced by the seeds. In fact, we increase the distinction of varieties, just in proportion as the species impregnated be more or less distinct from the species from which the fecundating pollen is obtained. It must not be supposed, however, that a combination of the qualities of two distinct species into one variety, raises that variety higher in the scale of organization than the species from which it sprung, as some would have us erroneously to believe, and argue "*that the simplest and most primitive type, give birth to the type next above it; that this again produces the next higher by similar means, and so on to the very highest.*"* This reasoning is proved to be sufficiently absurd by the simple fact, that hybrids, so produced, are fre-

*This principle of progressive development is strongly contended for in a book entitled "The Vestiges of Creation," and advocated by many others.

quently, and generally *lower* in the scale of vegetable organization than the parents from which they sprung; their floral development being very often imperfect, and even monstrosities. A hybrid may be higher in the scale of perfection for our purposes, and yet incapable of reproduction by fructification, and without possessing any recognized rank in the scale of complete vegetable development.

It has been sufficiently proved that hybrid productions can be made to partake of the properties of both the species from which they sprung, almost at the will of the hybridiser. This fact has been strikingly illustrated in the hybridization of fruits and flowers; but less attention has been paid to this branch of horticulture in the case of culinary vegetables, and therefore it is chiefly when the fecundation of flowers on plants having distinct characters, have occurred by insects, that the numerous varieties have been produced. By artificial hybridization, carefully performed, we find an invariable similarity in the results, which holds good at least in a considerable number of families of plants, especially among florists' flowers, and which has led to the production of colours and other characters almost as the operator may choose. Thus, in a number of subjects, the hybrid generally partakes in its flowers of the forms and colours of the male, while the habit and foliage resembles that of the female. In hybridizing geraniums, calceolarias, fuschias, &c., I have seldom failed in obtaining the colours I desired, in a greater or less degree, according as the operation had been carefully or negligently performed; I tried this experiment repeatedly on the fuschia, and the results were invariably the same. I impregnated the *F. serratifolia* with several globular varieties, and every seedling produced had

the foliage and habit of *serratifolia*, but their flowers were various. In many other instances I obtained similar results.

To hybridize with any reliable prospect of success, it is necessary to destroy the male organs of the seed-bearing flowers which are to be fertilized, taking particular care not to injure the stigma. This must be done before the blossoms are fully developed. In the fertilizing flowers I take away the stigma, leaving the stamens uninjured, and when the blossoms have attained a mature state, I impregnate the stigma of the former with the pollen of the latter. In most plants it is very easy to distinguish the precise time when the stigma is ready for the reception of the fecundating powder, and in some this period passes away in a few hours, while in others it remains for some days; and I am of opinion that success in hybridization depends pretty much upon the fertilizing of the organs at the period which nature has designed them to act. If too early, the organs of the flowers are not susceptible of fecundation;—the ovary is not prepared to receive, nor the anther to part with its fertilizing power. If too late, the anthers have already discharged their pollen, the stigma is fertilized, and subsequent impregnation has no effect. The stigma and pistils grow and come to maturity precisely at the same time; accordingly they also decay together; they lose their susceptibility of action immediately on the bursting of the pollen sacs; their respective functions having been fulfilled, the flower from that moment commences to decay.

In order to effect the impregnation of the seed, it is not necessary that the stigma should be loaded with the pollen; a very slight portion of the fructifying powder is sufficient, and the only material point is that the flower is mature, and that the

stigma has not been previously fertilized.

Hybridization is one of the most delicate operations connected with the vegetable productions of the earth, and requires more nicety and care than most people have patience to bestow upon objects that can do without it; and this probably is the reason why we are so frequently disappointed in the results of our labors in the raising of seedlings according to our wishes, for even with all the skill and care that can be bestowed, we frequently perform this operation but very imperfectly; and hence, when the success of our efforts, (especially with regard to subjects that require a few years to tell the result,) does not keep pace with the ardor of our desire to produce something new, we are apt to abandon the business in hopeless despair and fancy that the subject of our operations had reached the highest point of development, and that further progress was beyond the power of art.

It is a very remarkable fact, that all our most valuable culinary vegetables belong to those families that are of easy fecundation, and are very productive in their seed. The *Brassicæ* and *Papilionacea*, for instance, are exceedingly versatile: an experiment of Mr. KNIGHT, the famous horticulturist, shows how easily the latter family are changed by hybridization; an account of which may probably induce others to try the same. A degenerate kind of pea was growing in his garden, which would not grow vigorously even when placed in a rich soil; being a good subject for experiment, he removed the male organs from a dozen of its immature blossoms; when the blossoms had reached maturity, he introduced the pollen of a very large and luxuriant gray pea into one half the flowers thus dismembered, but leaving the other half without impregnation. The legumes

of both formed equally, but the seeds of the half unimpregnated withered away without having augmented beyond the size they attained before the blossoms expanded. The seeds of the other half were matured as in the ordinary process of impregnation, and exhibited no perceptible difference from the seeds of the other plants of the same variety; but when they vegetated in the succeeding spring, the effect of the impregnation was obvious. The plants rose with great luxuriance, indicating in their stems, leaves and fruit, the effects of the artificial impregnation; and the seeds produced had the dark grey colour of the male variety. By impregnating the flowers of this hybrid with the pollen of other sorts, the colour was again changed, and new varieties obtained superior in every respect to the original female parent, and some of them attaining the height of twelve feet. Knight's Marrow, one of the finest sorts grown, is the result of one of these experiments.

The results obtained by the experiments of KNIGHT have been confirmed by others down to the present day, although circumstances may occur to render them different, such as the disparity of constitutional vigor in the parents, in which case the predominating characters of the weakest are overcome by the strongest. In a great number of trials on various vegetables, I have invariably found this to be the case. On hybridizing Knight's Tall Marrowfat Pea with Bishop's Early Dwarf, the hybrid partakes more of the characteristics of the former than of the latter variety, but when the dwarf was made the female, the product was less robust than in the former case, though still partaking more of the habit of the strongest. On hybridizing the Early Frame with the purple field pea, I obtained a dull greenish variety, hardier

than the frame, but much inferior to it in point of flavor.

There are few vegetables more easily affected in their characters by the soil than peas. In a very sour, acid soil, the finest varieties will speedily degenerate; hence, the very beneficial effects of lime so perceptible on this crop, and yet a soil containing much lime, uniformly produces hard, unmelting and badly flavored peas, no matter what the variety may be; and though they grow well enough on stiff clayey land, the finest peas are invariably produced on light soil. In this, as in some other vegetables, many persons consider a change or renewal of the seed annually, as an indispensable condition to the cultivation of fine crops, and I observe the necessity of this change is insisted upon, both by theorists and practical men. But according to my own convictions, the strength of which has rather been increased than diminished by more attention and experience, the advantage derived from the use of seeds procured from foreign sources, arises largely from this cause, viz:

that gardeners in general are not sufficiently careful in the growing and preservation of seeds. It may, however, occasionally depend upon the nature of the soil and climate not being favorable to the ripening of certain kinds of seed, and then seeds must be obtained from other sources; but it frequently happens, that the amount of labor required in the garden does not admit of that attention to these matters which is necessary, and hence must be taken upon chance, and chance work it frequently is, of which we have all more or less experience. In all countries, there are some districts celebrated for producing certain kinds of seeds, which are found superior to others, and in these localities we generally find that this advantage arises as much from the care and attention which is paid to the culture and preservation of the seed, as from any thing in the nature and properties of the climate and soil being favorable to its production. Yours &c.,

R. B. LEUCHARS,

Gardener to J. Hopkins, Esq., Clifton Gardens,
near Baltimore.

DESIGN FOR A COUNTRY HOUSE.

ALL that is aimed at in this design (see FRONTISPIECE,) is to give a good form, and pleasing proportions, to what may be considered a plain substantial farm or country house, which may be built of wood, or of more solid materials.

In this plan, the high and bold roof affords plenty of room in the attic, so useful in all country houses. The front porch and bay window give an air of some taste to the exterior, while there is nothing difficult or expensive in the construction of the details.

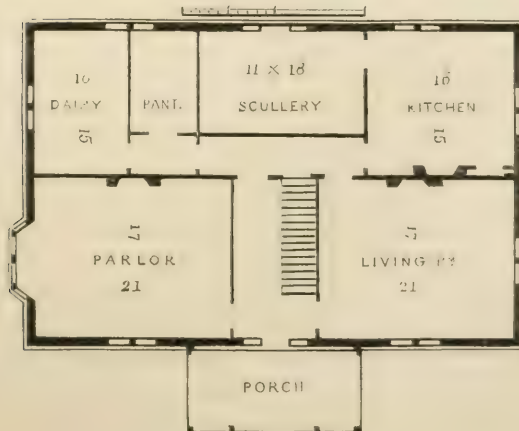
The plan of the principal floor shows an entrance hall eight feet wide, containing

the stair case, and shows two apartments of excellent size, occupying the front of the house. In the rear will be found a kitchen, scullery or wash room, pantry and dairy.

The arrangement of this part of the house may be varied at pleasure. Many families would prefer to place the dairy in a separate building, and devote that space to a *bed-room* on this floor; and a better arrangement of closets, &c., may be made by placing the pantry between the kitchen and the scullery,—all of which we leave for the exercise of the ingenuity of such of our readers as are fond of making good plans.



A COUNTRY HOUSE.



PRINCIPAL FLOOR.

[HOLT; MARCH, 1850.]

HOYA BELLA, (Beautiful Hoya.)

The general appearance of this exquisite species is quite unlike that of the familiar wax plant—*Hoya carnosa* of our green-houses. It is not a climber, but has a spreading habit, with small myrtle-like foliage. The accompanying cut, from Van Houtte's *Flore des Serres*, shows its manner of growth (in miniature;) the leaves being about an inch long.

The flowers of this plant, borne in clusters, are pure white with a purplish centre, and are so curiously beautiful that the floricultural magazines have exhausted their epithets of praise in describing it. SIR WM. HOOKER says they "resemble an amethyst set in frosted silver," and M. Van HOUTTE says "le blanc presque hyolin de ses corolles, au centre le violet translucide de ses androzones," &c. It is a native of Java, and flowers readily and abundantly in a warm green-house.

ZAUSCHENERIA CALIFORNICA.—A very showy plant lately found growing in the fields near Monterey. It forms a thick bushy mass with its numerous slender branches, and producing a brilliant effect by its multitude of gay orange scarlet flowers, somewhat resembling that of the *Gaura*. It has been cultivated abroad as a hardy green-house plant, turned out in open borders to flower in summer, and taken up and sheltered in a cold frame or green-house in winter. If, as seems probable, this plant proves hardy with us, it will be a



Fig. 103.—*Hoya bella*.

great acquisition to the flower garden. It grows about three feet high, very bushy, with perennial stems, woody at the base; natural order, *Onotheraceæ*.

FUCHSIA SERRATIFOLIA.—This distinct and beautiful *Fuchsia* is better worthy of second trial here than any other, and if it answers to the character given it by VAN HOUTTE of "allowing amateurs of all classes to enjoy its beauty, because it grows and flowers freely in the open air all summer," it will become a favorite at once in this country, where none of the new *Fuchsias* succeed well except with shelter in summer. It is a native of New Grenada, and the countries bordering the Andes, and a cold frame is sufficient to protect it in winter. The plant is of handsome growth

Fig. 104.—*Fuchsia spectabilis*.

the leaves boldly serrated, the flowers large with large rosy calixes, touched with green, a fine open corolla of an orange colour. It should, for trial in this country, be planted out about the middle of May, in a situation sheltered from winds; a deep, moist, rich border, with the surface mulched to retain moisture.

HOYA IMPERIALIS—(*Imperial Wax plant*.)

—This is truly one of the most striking of

all exotic climbing plants. Imagine the flowers of the common wax plant magnified so that each flower is nearly two inches in diameter, of a rich brown colour, and the massive leaves from four to six inches long, and you have a faint idea of the gigantic proportions of this *Hoya*.

VAN HOUTTE, in his *Flore des Serres*, says, "its large and superb foliage, its flowers, borne in umbels, of eight or ten inches in diameter, the violet crown of their corollas, contracted by the ivory white hue of the centres; these flowers, borne on long pendant peduncles, remaining a long time in bloom, and emitting at night a sweet perfume;—such are the qualities which recommend this magnificent *Asclépiadée* to amateurs." If we remember right, this species is already propagated to considerable extent in the collection of Messrs. **BUIST** of Philadelphia, and **HOGG** of Yorkville, N. Y. It requires a

warm and rather damp atmosphere in the green-house or stove, rich soil, composed largely of leaf-mould, and plenty of trellis room to clamber over. It is a native of Borneo.

FUCHSIA SPECTABILIS—The "queen of Fuchsias," this superb species has been called by **Dr. LINDLEY**. The flowers are so large and the pedals so expanded, that they might, at first sight almost be taken

for those of the oleander. The colour is a rich lively red, heightened by the pure white of the very large stigma. The foliage is large and broad, and of a dark, velvety, green colour. This species was discovered in the Andes of Quito, where it grows four feet high, in shady woods. It requires the same treatment as the other green-house species, and plants of it are advertised for sale by Messrs. PARSONS, and the other leading growers.

FOREIGN NOTICES.

SELECT LISTS OF ROSES.—We extract the following select lists of roses, for various purposes, from *Beck's Florist*. It will be seen that they are made by the most extensive growers and best judges in England, and are probably the result of the comparison of a thousand varieties. On the whole, the selection would be concurred in for this climate. ED.

List of the best 24 roses for blooming throughout the summer and autumn in the open borders, by Mr. Paul, Cheshunt; Mr. Wood, Maresfield; Mr. Hunt, Wycombe; Mr. Barnes, Stowmarket; Mr. Gladden, Sandwich; and Mr. Parsons, Enfield. (The numbers show the votes for each variety.)

Hybrid Perpetual.

- Votes.
7. Baron Prevost,
 5. Dr. Marx,
 5. Mrs. Elliott,
 5. Geante des Batailles,
 5. Duchess of Sutherland,
 4. La Reine,
 3. Jacques Lafitte,
 3. Augustine Monchelet,
 3. Sydome,
 3. Robin Hood,
 3. William Jesse,
 3. Madame Laffay,
 3. Lady Alice Peel,
 2. Louis Bonaparte.

Bourbon.

7. Souvenir de Malmaison,
5. Madam Angelina,
3. Souchet,
3. Acidalie.

Damask Perpetual.

5. Mogador.

China.

3. Cramoise Supérieur,
3. Mrs. Bosanquet.

Tea Scented.

4. Comte de Paris,
3. Devoniensis.

Noisette.

3. Lamarque.

List of the best 24 summer (or June) roses, by Mr. Paul, Mr. Parsons, Mr. Wood, Mr. Barnes, Mr. Gladden, Mr. Hunt, and Mr. Dobson.

Hybrid Bourbon.

- Votes.
7. Coupe d'Hebe,
 4. Charles Duval,
 3. Paul Perras,
 3. Gloire de Corline.

Hybrid China.

3. Brennus,
3. Hypocrate,
2. Chenedolle,

Hybrid Provence.

5. Letitia, or La Volupte,
3. Princesse Clementine,
2. Adrienne de Cardoville.

Moss.

5. Cristata, or crested,

2. Lanei,
2. Princess Royal, (Porte mor.)

Gallica.

6. Boule de Nauteil,
5. D'Aguesseau,
4. Kean,
3. Granddissima.

Damask.

6. Madam Zoutman,
3. La Ville de Bruxelles.

Alba.

3. Madam Andot,
3. Blanchefleur.

Austrian.

3. Persian Yellow.

List of the best 24 roses for pot culture, by Mr. Paul, Mr. Wood, and Mr. Dobson.

Alba.

- Votes.
2. Felicete,
 2. Ophre de Marsilly.

Gallica.

2. Columella,
2. Gloire des Amateurs.

Hybrid China.

2. Paul Perras,
2. General Allard,
2. General Kleber.

Hybrid Perpetual.

2. Duchess de Montmorency,
2. Duchess of Sutherland,
2. Madame Laffay,
2. La Reine,

2. Vicomtesse de Bellevue.

Bourbon.

2. Hermosa,
2. Souvenir de Malmaison,
2. Madame Angelina,
2. Julie de Fontenelle.

China.

2. Madame Breon,
2. Aimee Plantier.

Tea Scented.

3. Devoniensis,
2. Abricote,
2. Nephites,
2. Souvenir d'un Ami,
2. Josephine Malton,
2. Triomphe de Luxembourg.

MAGNIFICENT WATER LILY.—We extract the following from the *Gardeners' Chronicle*. It is interesting, not only as the description of the most magnificent of all aquatics, but as showing the perfection which horticulture has attained in England. Will not some of our liberal amateurs—Mr. BECAR or Mr. COPE—undertake to show us the Victoria in bloom in the United States? ED.

It was on new year's day, in the year 1837, that the celebrated Water Lily, to which the name of Victoria regia was afterwards given, was first discovered by Mr. (now Sir ROBERT) SCHOMBURGK, who thus described the interesting event.

"While contending with the difficulties Nature imposed in different forms to our progress up the river Berbice (in British Guiana,) we arrived at a point where the river expanded, and formed a currentless basin; some object on the southern extremity of this basin attracted my attention; it was impossible to form any idea what it could be, and animating the crew to increase the rate of their paddling, we were shortly afterwards opposite the object which had raised my curiosity—a vegetable wonder! All calamities were forgotten; I felt as a botanist, and felt myself rewarded: a gigantic leaf, from five to six feet in diameter, salver-shaped, with a broad rim; of a light green above, and a vivid crimson below, resting upon the water. Quite in character with the wonderful leaf was the luxuriant flower, consisting of many hundred petals, passing in alternate tints from pure white to rose and pink. The smooth water was covered with the blossoms, and

as I rowed from one to the other I always observed something new to admire. The leaf, on its upper surface, is of a bright green; in form almost orbicular, except that on one side it is slightly bent in; its diameter measured from five to six feet; around the whole margin extended a rim, from three to five inches high, on the inside light green, like the surface of the leaf, on the outside like the leaf's lower surface, of a bright crimson. The ribs are very prominent, almost an inch high, radiating from a common centre; there are eight principal ones, with a good many others, branching off from them; these are crossed again by a membrane or bands at right angles, which gives the whole the appearance of a spider's web, and are beset with prickles; the veins contain air-cells like the petiole and flower-stem. The divisions of the ribs and bands are visible on the upper surface of the leaf, by which it appears areolated. The young leaf is convolute, and expands but slowly. The prickly stem ascends with the young leaf till it has reached the surface; by the time it is developed, its own weight depresses the stem, and it floats on the water. The stalk of the flower is an inch thick near the calyx, and is studded with sharp elastic prickles, about three-quarters of an inch in length. The calyx is four-leaved, each sepal upwards of seven inches in length, and three inches in breadth; at the base they are thick, white inside, reddish brown and prickly outside; the diameter is from twelve to thirteen inches; on it rests the magnificent corolla, which, when fully developed, completely covers the calyx with its hundred petals. When it first opens it is white, with pink in the middle, which spreads over the whole flower the more it advances in age, and it is generally found the next day altogether of a pink colour; as if to enhance its beauty, it is sweet-scented. Like others of its tribe, the petals and stamens pass gradually into each other, and many petaloid leaves may be observed which have vestiges of an anther. The petals next to the leaves of the calyx are fleshy, and possess air-cells, which certainly must contribute to the buoyancy of the flower. The seeds of the many-celled fruit are numerous, and imbedded in a spongy substance. We met the plants frequently afterwards, and the higher we advanced the more gigantic they became: we measured a leaf which was six feet five inches in diameter, its rim five and a half inches high, and the flower across fifteen inches.²⁷

Such was the manner in which the zealous traveller spoke of the wonders which this Water Lily presented to his delighted eyes; nor was there exaggeration in his description, as the event has shown.

Supposing it to be a species of *Nymphæa*, Sir R. SCHOMBURGK proposed that Her present Majesty should be asked to permit its second name to be that of *VICTORIA*; a request with which the queen was graciously pleased to comply. It however proved, upon examination in Europe, not

to be a *Nymphæa*; and it was reserved for the writer of the present memorandum to have the honor of finally establishing it as a new genus, of which *VICTORIA* became the denomination.

The dispersion, by Professor LINDLEY, of a privately printed memoir upon the subject, elicited some further information, from which it appeared that the same, or a similar plant, had been previously seen in 1828, in a tributary of the River Plate, by M. D'ORBIGNY, a French traveller, and in a branch of the Amazons, in 1832, by Dr. POEFFIG; that its seeds are roasted and eaten by the natives, who call them *Water Maize*; and that it occupies large districts in all the lakes and tranquil tropical rivers of South America. M. D'ORBIGNY was not unnaturally annoyed at the honor of naming the *VICTORIA* having been taken from him by English naturalists, although unintentionally on their part. He had sent flowers and fruit to the Museum of Natural History in Paris as early as 1828; and there they had lain unnoticed and forgotten. We should be curious to know how long they would have been buried in the rubbish of our own British Museum.

We cannot pursue the botanical history further than by stating that Sir WM. HOOKER, having received seeds and important additional memoranda from Mr. THOMAS BRIDGES, collected the information here alluded to into a memoir, published in 1847, and illustrated by four coloured folio plates.

As an English botanist enjoyed the good fortune first to make this plant known in a scientific manner, so has an English gardener had the honor of first causing it to produce its glorious blossoms in a hot-house. So long since as 1847 two plants were raised in the Royal Botanical Garden at Kew; and subsequently many others have vegetated there. Of these, one was obtained by Mr. PAXTON in the beginning of August last, and immediately transferred to Chatsworth. Such means of cultivating it as skill and experience suggested were provided, and in three months a flower appeared above water. On the 10th of August the plant was consigned to its tank; on the 14th of November a flower and leaf were produced before Her Majesty and Prince Albert, at Windsor; and on the 17th another flower expanded, as if to welcome to Chatsworth the noble Duke on his return from Ireland on that day.

This must be regarded as a very striking example of horticultural skill, and shows the importance of attending carefully to first principles in all experimental cultivation. How Mr. PAXTON acted, we now proceed to show.

In a hot-house of sufficient dimensions, a tank was constructed three feet deep and twelve feet square, warmed by hot water circulating beneath. To this was added a ledge all round, nine inches deep, three and a half feet wide, and heated by a triple row of small lead pipes, through which hot water circulated. By these means the tank was rendered nineteen feet square, with a deep centre and shallow sides.

In order to keep the water in motion, a small wheel was added at one corner; over that wheel water was caused to drop continually with force enough to keep the wheel constantly revolving; the water thus continually flowing into the tank was carried off by a small pipe in one of its corners near the bottom. In this way were secured the important advantages of the water being so often changed that it could not become stagnant, together with ceaseless gentle agitation. Nothing could be more like the natural state of a tranquil river. By the heating apparatus its temperature could also be regulated with facility. The thermometer has generally indicated 85° .

In the centre of the tank was introduced a hillock of earth, consisting of *burnt loam* and peat. To the burning of the loam Mr. PAXTON attaches great importance; and this agrees with the daily experience of those who employ burnt or charred materials in gardening. The physical condition of soil is much improved by the process, and the weeds and insects are destroyed. Mr. PAXTON is also of opinion that the removal by fire of all matters ready to enter into fermentation or rapid decomposition, when in contact with water heated to 85° , was in itself no inconsiderable cause of the success of his experiment; in addition to which it preserved the water perfectly translucent.

On the hillock thus prepared, the VICTORIA Lily was planted on the 10th of August; and on the 1st of November the first flower appeared. For some interesting details of the rate of growth, and other circumstances connected with the progress of the lily, we refer to a paper in another column by Mr. GEORGE EYLES, who has the special charge of the plant at Chatsworth.

The largest leaf yet produced is nearly five feet in diameter; the largest flower, ten and a half inches in diameter. The latter appears to be the size of those seen by BRIDGES; SCHOMBURGK, however, says that he saw flowers as much as fifteen inches in diameter; and D'ORBIGNY says upwards of a foot. The leaves, too, although larger than any mentioned by BRIDGES, are inferior in magnitude to those found in Berbice, one of which measured six feet five inches in diameter.

It thus appears that, although skill has succeeded in compelling the VICTORIA Lily to expose her blossoms to the gaze of England, there is still something to improve; as might have been expected from the unfavorable circumstances under which the cultivation at Chatsworth was necessarily conducted. In one point, more especially, there is evidently much to accomplish. All travellers speak of the edges of the leaves being turned up; SCHOMBURGK says that he has seen the rim thus formed as much as five and a half inches high; D'ORBIGNY speaks of two inches. In the Chatsworth plant there is no rim, except when the leaves are very young. The leaves are, in fact, much more tender than could have been an-

ticipated from parts of so large a size, which is perhaps owing to the rapidity of their formation. Nevertheless, they are so buoyant as to be capable of supporting a considerable weight. In the *Illustrated London News* a little girl is represented standing on one of them; this is no exaggeration. A child three years old did stand upon one of the leaves, a circular piece of wood having first been placed upon it to distribute the weight. The wood weighed fifteen pounds, the young lady about forty-two pounds; in all, the weight was not much less than sixty pounds. An enormous quantity of air-cells, of considerable size, dispersed through the thick ribs of these leaves account for the buoyancy.

The flower itself, when it first opens, resembles the White Water Lily, of a dazzling white, with its fine leathery petals forming a goblet of the most elegant proportions; but as the day advances it gradually expands till it becomes nearly flat; towards evening a faint blush becomes visible in the centre; the petals fall back more and more; and at last, about 6 o'clock, a sudden change occurs; in a few minutes the petals arrange themselves in the form of a snow-white hemisphere, whose edge reposes on the water, and the centre rises majestically at the summit, producing a diadem of rosy points. It constitutes one of the most elegant objects in nature. Shortly after, the expansion of the central parts proceeding, these points fall back; the stamens unfold in an interior coronet, the stigmas are laid bare, a grateful perfume rises into the air, and the great object of the flower, the fertilisation of the seeds, is accomplished. Then fold inwards the petals, the flower closes, the fairest of vegetable textures becomes wrinkled, decay begins, and the flower-stalk withdraws itself beneath the water, as if to veil the progress of corruption. But out of this decay arises a new living body; the fruit, curved downwards, swells rapidly, and in a short time the fruit, a prickly seed-vessel, is observed concealed beneath the floating leaves. Further than this the VICTORIA has not been watched; but travellers say that at last the ripened fruit rises majestically above the lake in the shape of a goblet of exquisite proportions.

Of the fragrance natural to the plant we have small experience. BRIDGES describes it in the following terms: "I had an opportunity of experiencing the fragrance of the flowers. Those I collected for preserving in spirits were unexpanded, but on the point of opening; on arriving at the Government House, in the town, I deposited them in my room, and returning after dark, I found to my surprise that all had blown and were exhaling a most delightful odor, which at first I compared to a rich pine-apple, afterwards to a melon, and then to the *Cherimoya*; but, indeed, it resembled none of these fruits, and I at length came to the decision that it was a most delicious scent, unlike every other, and peculiar to the noble flower that produced it." We must wait till

the lily blooms in a better month than November to appreciate the justice of this description.

Following the example set by Mr. PAXTON, there is no lover of flowers, who has a hot-house at command, that may not hereafter be gratified by the possession of this vegetable wonder. If it should prove to be an annual, as some suppose, the facility with which it seems ready to produce seeds will ensure its permanence in the country. But upon that point there is much room for doubt: and BRIDGES pronounces himself distinctly in favor of its being a perennial. In the very interesting account of it, to which we have already referred, he says:

"With the assistance of the Indians, we got out of the water two entire plants, and, from their appearance, I should say the *VICTORIA* is decidedly perennial. Each plant had from twenty to thirty foot-stalks of flowers and leaves, in all stages; some nearly decayed to the base, others half way down the stem, whilst others had just lost the floating portion. The same was observed in the petioles; some bearing the seed-vessel perfect, with ripe seed; others the expanded flower; and near the crown or centre of the plant was just issuing the tender flower bud. With a knife we cut or trimmed the footstalk, when the trunk (if I may use the comparison,) somewhat resembled a *Zamia*, and in length was about eighteen inches or two feet. At the base, and between each footstalk, protrudes a mass or cluster of fleshy, hollow roots, about the size of a straw, or larger, and varying in colour from brown to white, or nearly so; a succession of these roots is formed, as the new leaves are thrown out from the centre of the plant, Nature having made a beautiful and wise provision for this plant, as in all her other works. The base of the trunk, or rather stem, situated in the soft mud, appears to decompose in proportion as new leaves and flowers issue from the centre, keeping the plant from elevating itself above water, which, but for such an arrangement, might be the case, from the rapidity of its growth." If these statements can be relied upon, the probability is, perhaps, in favor of its not being an annual.

That its natural habits are such as to render it perfectly well suited to artificial management is pointed out in a striking manner in another passage in this collector's letter to Sir WILLIAM HOOKER.

"The *VICTORIA* grows," he says, "in 4—6 feet of water, producing leaves and flowers, which rapidly decay and give place to others. From each plant there are seldom more than four or five leaves on the surface; but even these, in parts of the lake where the plants were numerous, almost covered the surface of the water, one leaf touching the other. The plant occupies almost exclusively the water, with the exception of a few floating aquatics of small dimensions, amongst which I saw a beautiful *Utricularia*. The blossoms rise six and eight inches above the surface,

expanding first in the evening, when they are pure white—changing finally (and by exposure to the sun) to a most beautiful pink or rose colour; flowers may be seen, at the same time, partaking of every tinge between the two hues, the recently expanded being pure white, and the adult rosy, almost sinking under water to ripen its seed and produce a new race of plants when required. The largest flowers I saw measured from ten inches to one foot in diameter. From what I observed of the nature and habits of this most interesting plant, I conclude that it cannot and does not exist in any of the rivers where the immense rise and fall of 20 feet would leave it dry during many months of the year, especially in the season when there is no rain. The lagoons, being subject to little variation in the height of their waters, are the places where it grows in all its beauty and grandeur. The *VICTORIA* appears to delight in parts of the lake fully exposed to the sun, and I observed that it did not exist where the trees overshadowed the margins."

For the present we have only to recommend the plan on which it has been managed at Chatsworth, as an example of the way in which all other tropical aquatics should be grown by those who wish to see them in perfection. A tank containing *VICTORIA*, the *Nymphaea rubra*, *cærulea*, *stellata*, and *ampla*, the *Nelumbiums* of India, some *Sagittarias*, *Limncharis*, and *Hydrocleys*, a *Papyrus* or two, with the *Pontederas*, would be one of the most beautiful spectacles the eye could rest upon. *Gard. Chronicle*.

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PLAN OF STRIKING ROSES.—I have succeeded well with striking roses in the following manner: Take a pan one foot square by eight inches deep, place in the bottom a few pieces of charcoal, and over this lay about two inches of the same broken very small; then fill up with equal parts of leaf-mould, peat, loam, and silver sand; mix the whole well together, and press firmly.

The proper time to select the cuttings I find to be when the wood is approaching ripeness in September; choose a dull day for the operation, and cut to a heel if possible; then insert the cuttings with a small dibble, so that the heel of the cutting may be near the charcoal at the bottom of the pan; press each cutting firmly in the soil, about an inch apart, and when the pan is full, give a good watering, and sprinkle the surface with silver sand and charcoal dust to the depth of a quarter of an inch. Then plunge them in a well glazed cold frame, amongst coal ashes, up to their rims; give air occasionally throughout the winter, and keep them clear of decayed leaves and weeds. They will require a little water by March, when they begin to grow.

By the beginning of May they will be ready for planting out eight inches apart in beds. Introduce a piece of slate or tile under each, and fill up with a handful of material similar to that they were struck in. The soil should be rich and well

pulverised previous to planting, which should take place in a warm, shady situation if possible; then give them a watering, and shade for a few days from sun and cold winds. The tiles are for causing the roots to take a horizontal direction, in order that the plants may be removed more readily in the autumn to their final destination.

The following is a good method of treating roses intended to flower the following March and

April: pot in the autumn, and plunge the pots in a bed of leaves, with the tops exposed to the atmosphere; they will make roots then, and be in a fit condition for gentle forcing in spring.

The roses that I struck in the way mentioned above were Chinas, Teas, Bourbons, Noisettes, and Hybrid Perpetuals. If well managed, they blossom freely the first season. *D. Hay, gardener to C. Lawrence, Esq., Cirencester. Ibid.*

DOMESTIC NOTICES.

GARDENING IN CALIFORNIA.—Those who have turned their attention to gardening in *El Dorado*, seem to have been better paid than many who have been busy at "diggings" of the other sort. One market gardener, near San Francisco, sold his entire crop of melons (which are as easily grown there as turnips,) for \$4000, averaging \$1 each. We saw a letter a few days ago from a reliable source—a gentleman of our acquaintance, who has purchased nearly a mile square on the Sacramento—in which he stated the latest prices of farm and garden products as follows: Hay, 12½ cents per lb.; cabbages, \$4 each; onions, 30 cents per lb.; potatoes, 20 cents per lb., &c. He has ordered a quantity of the best garden seeds (a great scarcity there,) from one of our seedsmen, and intends to try the productiveness of the soil on a considerable scale the coming season.

THE WINTER.—The past winter on the whole has been a very mild one. The thermometer here has not fallen below 8° of Fahrenheit; and during a considerable part of the time, transplanting, trenching, and other operations have been going on. As usual, they have had quite the contrary season on the other side of the Atlantic; late accounts from Rome telling us of two feet of snow, and plenty of ice in the streets of the capitals of the Cæsars.

REPORT OF THE POM. CONGRESS.—We learn, by a letter from Hon. M. P. WILDER, President of the Pomological Congress, that in consideration of the delay by the American Institute in printing the Report, it has been resolved to withdraw the manuscript, and put it to press immediately in Boston. The members of the convention may therefore hope to have copies sometime during the month of March.

PACKING SEEDS FOR LONG VOYAGES.—We notice a letter in one of the daily papers from Dr. JUNIUS SMITH, of S. C., who, our readers will remember, has patriotically undertaken to introduce the culture of the tea into the southern states. Dr. S. gives an account of the failure of

his experiment, last year, in raising seedling tea plants; the seeds having been badly packed in China, so that their vitality was destroyed on the passage; but he hopes for better results with another importation, now on the way. He puzzles us a little with his description of the seed of the tea, which he calls a "nut," when all botanists, familiar with this genus, agree in calling the seed vessel a "capsule, of three carpels, bearing three seeds."

We suppose the seeds spoiled on the way to Dr. S. were packed in sealed cases; a common, but very poor mode. As this is a matter of some importance, now that our relations with distant countries are so multiplied, we extract the following *multum in parvo*, on this subject, from Lindley's Horticulture, for the benefit of our readers:

"Upon the whole, the only mode which is calculated to meet all the circumstances to which seeds are exposed during a voyage is, to dry them as thoroughly as possible, enclose them in coarse paper, and to pack the papers themselves *very loosely* in large coarse canvass bags, not enclosed in boxes, but freely exposed to the air; and to ensure their transmission in some dry and well ventilated place. Thus, if the seeds are originally dried incompletely, they will become further dried on the passage; if the seed paper is damp, as it almost always is, the moisture will fly off through the sides of the bags, and will not stagnate round the seeds. It is true that, under such circumstances, the seeds will be exposed to the fluctuations of temperature, and to the influence of the atmosphere; but neither the one nor the other of these is likely to be productive of injury to the germinating principle. The excellence of this method I can attest from my own observation. Large quantities of seeds have been annually transmitted from India for many years, doubtless gathered with care, it is to be presumed prepared with every attention to the preservation of the vital principle, and certainly packed with all those precautions which have been erroneously supposed to be advantageous; the hopelessness of raising plants from such seeds has at length be-

come so apparent, that many persons have altogether abandoned the attempt, and will not take the trouble to sow them when they arrive. But the seeds sent from India by Dr. FALCONER, packed in the manner last described, exposed to all the accidents which those first mentioned can have encountered, have germinated so well, that we can scarcely say the failure has been greater than if they had been collected in the south of Europe.

"I have no doubt that the general badness of the seeds from Brazil, from the Indian Archipelago, and from other intertropical countries, is almost always to be ascribed to the seeds having been originally insufficiently dried, and then enclosed in tightly packed boxes, whence the superfluous moisture had no means of escape."

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LISTS OF TREES, PLANTS, AND HINTS TO YOUNG PLANTERS.—We must be allowed to pack into this paragraph, condensed answers to queries scattered through a dozen letters. The best *rapid growing* trees of large size, are the Dutch or cork-elm, the American weeping elm and the ash-leaved maple. They do not throw up suckers, and are easily removed of any size; for situations near water, we may add the weeping willow. The best *rapid growing* shrubs, easily obtained, for making a screen or thicket, are the privet, the white lilac, the Carolina syringo, the buckthorn, the Cornelian cherry, the Venetian fringe tree and the upright or tree honeysuckles. The most desirable hardy *sweet-scented shrubs* are the calycanthus, the magnolia glauca, the fragrant clethra, the Chinese purple magnolia; and among vines or climbing shrubs, the Chinese twining honeysuckle, the monthly fragrant honeysuckle, the sweet-scented clematis. The most showy climbing shrubs are Chinese Wistaria and Tecoma grandiflora. Shrubs remarkable for the *beauty* of their flowers, are the tree-paeonias, *Deutzia scabra*, white or Virginia fringe tree, the double hawthorns, dwarf horse chestnut, and the Chinese magnolias. Shrubs that will grow under the shade of trees, are the privet, the buckthorn, the English fly, (*Xylosteum*) Missouri currant, and Cornelian cherry.

Among the *new* things to be had in the nurseries, no one can be disappointed with the *Weigela rosea*, the new shrub from China with a profusion of large flowers expanding of a delicate apple-blossom colour, and changing to a deep rose; or with the double *Spirea prunifolia*, loaded with little double blossoms like miniature white roses. Both these have proved quite hardy in our own grounds, and require the least possible care. *Buddleia lindleyana* also proves a hardy and very pretty shrub. The *Araucaria imbricata*—the most curious, and the Deodar cedar, the most beautiful of evergreens, turns out to be quite hardy here, and may probably be so still farther north, and every body who can get them, (especially the latter) will make haste to plant at least one specimen.

Among plants for the flower garden, Robinson's

Defiance verberna and the Tom Thumb geranium will be great favorites for beds and masses. A strong plant of the latter new verberna is now in bloom in our green-house, and is certainly an acquisition—the colour, the richest scarlet—the flowers large, fine and abundant. Lady Larpen's Leadwort, (*Plumbago larpenæ*) blooms all summer, if placed in a rich *shady* border; many were disappointed in it last season because they grew it in the sun, and the flowers dried up. Messrs. THORNBURN & Co. offer seeds of a white Phlox drummondii, which makes fine beds or masses of this rather rare colour. Among the most meritorious of the new green-house plants, are *Propeolium lobbianum*, *Torrenia asiatica*, *Gardenia fortunei*, *Hemfryea scandens*, *Gloxinia teuchleri* and *Fuchsia spectabile*. The two new heliotropes—*voltairianum*, (a larger and darker blue than the old one) and the *souvenir de leige* (yellow) are worthy of a place in every collection.

Among the valuable acquisitions to the flower garden in mid-summer, few things are more esteemed than the hardy perennial phloxes with variegated and striped flowers. *Van Houtti* is the oldest and perhaps still finest of all these, but the following new varieties are all beautiful: Beppo, Standard of Perfection, Triumphator, Robert of Flanders, Camille, Thésé and Arsinoë.

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A STATESMAN-CULTIVATOR.—We are glad to see that our friend, the President of the Senate of Mass., continues to weave a pleasant garland around the usually stern brow of political life. We fear the presence of such men in the Legislature of Mass., well versed in the wants of the agricultural class, will secure our sister state an agricultural college in advance of us in New-York.

"Hon. MARSHALL P. WILDER, President of the Senate, had a grand party at his mansion in Dorchester, on Wednesday night of last week. Gov. BRIGGS, and a large portion of the Council and the two branches of the Legislature were among the guests. All appeared to enjoy themselves very much. A distinguished and delightful feature in the fitting up of the principal rooms and passages was the presence of brilliant and odoriferous flowers, &c. There were the choicest varieties of camelias in full bloom, and eight or ten feet in height; orange and lemon trees in different stages of growth, from the flower to the ripe fruit, and rare green-house exotics, whose names were Greek to the uninitiated in the mysteries of horticulture and floriculture.—*Boston Post*."

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ANALYSIS OF INDIAN CORN—*My Dear Sir*: In LIEBIG, we have the analysis of the starch from maize, or Indian corn. In the Reports of the Com. of Patents, for 1847, page 133, is the following: "Maize has never been analyzed with sufficient accuracy." But in your review of the Transactions of the New-York Agricultural Society, you mentioned the "very complete prize

essay on Indian corn, by Mr. Salisbury, giving an accurate analysis of the composition of every part of the plant."

I have been anxious to obtain the analysis of the corn, or corn flour. If you can oblige me by transmitting to me, or through the medium of the Horticulturist, that portion of the analysis, I should feel obliged; and I am your ob't serv't, Jas. Paul. Trenton, N. J., Feb. 14, 1850.

ANSWER.—Mr. SALISBURY'S excellent essay occupies nearly 300 8vo. pages; and the analyses of twenty varieties of corn are given. As the common 8-rowed yellow corn may be taken, as a sort generally cultivated at the north, we annex his analysis of that sort.

<i>Analysis of the whole Kernel.</i>	
Starch,	50.64
Sugar and extract,	7.46
Sugar,	1.50
Fibre,	6.28
Matter separated from fibre,	0.05
Albumen,	8.64
Casein,	1.70
Gluten or zein,	4.56
Oil,	4.60
Dextrine or gum,	4.84
Water,	10.22

(In 100 parts, or)..... 100.48

<i>Analysis of the ash of Kernel.</i>	
Carbonic acid,	trace.
Silicic acid,	1.450
Sulphuric acid,	0.206
Phosphoric acid,	50.955
Phosphate of iron,	4.355
Lime,	0.150
Magnesia,	16.520
Potash,	8.256
Soda,	10.908
Chloride of sodium,	0.249
Organic acids,	3.100

(In 100 parts, or)..... 97.000

The ash of the kernel is nearly three parts of the whole. Of course, the analysis of the stalks and leaves are quite different, and we have not room for more. But we cannot deny ourselves the pleasure of extracting the following remarks by Mr. S., on the inorganic manures necessary to the cornfield, as they are of practical value to every one who cultivates a hill of corn. ED.

"We see by the (various foregoing) analyses that the several inorganic bodies removed from the soil by a crop of maize, rank as follows: Commencing with the highest,—silicic acid, soda, phosphoric acid and potash, sulphuric acid, magnesia and chlorine, lime and iron.

"The aggregate amount of inorganic bodies taken from an acre of land, annually, by a stout crop of maize, is by no means so large as is generally supposed; and yet it is sufficiently so to exhaust the best soil, in a brief period of years, of some of those bodies which act so essential a part in the constitution of the plant. The amount, generally, would not exceed 600 lbs. Indeed, it would, in a majority of cases, fall short of this. In some instances, however, of an inordinately stout growth of some of the larger varieties, it might even go up to 1000 lbs.; but such cases would rarely occur. 600 lbs. may then be assumed as the quan-

tity ordinarily removed from an acre of land by a stout crop of maize; or what would be a better criterion to follow, 100 lbs. of inorganic matter for every ten of dry produce. Of this, about one-third is silicic acid, one-sixth soda, one-eighth potash, one-eighth phosphoric acid, one-twelfth sulphuric acid, one-eighteenth magnesia, one-eighteenth chlorine, and one-eighteenth lime and iron.

"The *silicic acid* is mainly removed by the straw or leaves, sheaths, and stalks. There is generally an abundance of this body in the soil; it only being necessary to secure the presence of a sufficiency of the *alkalies* to form with this acid enough of its soluble salts to meet the demands of the plant.

"The *potash* and *soda* enter quite largely into the composition of all parts of the plant; but more so into that of the stalks, grain, and cobs, than of the other portions. Soils, though they ordinarily contain considerable of these two bodies, yet they generally have a quantity by far too small to supply the lavish demands of this plant for any great length of time.

"*Phosphoric acid* enters largely into the grain, and quite largely into the cob and stalk. It constitutes about one-eighth of the ash of the entire plant. Soils are commonly deficient in this acid; or at least they contain much less of it than almost any of the other inorganic bodies which enter into the composition of plants. The quantity usually removed from an acre of land, annually, by a good crop of maize, is from 60 to 75 lbs., or from 10 to 12 and 13 lbs. per ton of dry produce.

"*Sulphuric acid*, from the quantity taken away by a crop, seems to be an essential ingredient of this plant. It enters more largely into the leaves, stalks, and sheaths, than into the grain. From 45 to 60 lbs. are removed by the annual produce of an acre, or from 7½ to 11 lbs. per ton of dry plants.

"By referring to the foregoing calculations, we notice that the *magnesia* is removed from the soil in larger proportions than the lime; or in other words, the maize plant requires more of the former than of the latter. This is by no means an uninteresting feature. About 16 per cent. of the ash of the grain is magnesia, while the same ash has usually less than one per cent. of lime. The magnesia in the kernels is usually in the state of a phosphate. Lime enters more largely into all parts of the plant except the grain and cob than magnesia; yet the aggregate amount of the latter in the whole plant is greater than the former. Hence there is evidently as much necessity of adding magnesia to the soil, for the maize crop, as lime; and even more, if one of these bodies can be said to rank in importance before the other; since it enters so largely into the composition of the seed, constituting about one-sixth of its ash.

"Lime is often added to soils in considerable quantity, and has ever been considered 'the basis

of all good husbandry.' The greater value of lime over that of magnesia, if any (in the maize crop,) is in mechanically and chemically influencing the soil, aside from serving directly as food to the plant. Indeed, it is by no means a settled question, that magnesia, when properly applied, exerts a less beneficial influence upon the soil than lime. Neither of those bodies, however, possesses the property of maintaining, unimpaired, the original richness of a soil. Hence one cannot be strictly said to be more valuable than the other. There is an equal necessity of returning any or all of the other inorganic bodies which are removed from the land, as they become less in quantity in the soil than is necessary amply to supply the healthy demands of the plant, as there is in returning either or both of these as they become deficient." *Salisbury's Analyses, &c. Transactions Ag. Society.*

CINCINNATI HORT. SOCIETY.—We have just received the *price list* of this society, for the annual exhibition, to come off on the 11th and 13th of September next. It is arranged on a very liberal scale,—the premiums being such as may very properly be deemed some compensation to those who take especial pains to raise fine fruits, and give their time and attention at exhibitions. We extract the following from a list of about 150 prizes: "Best display of apples, silver cup, \$20; best 10 varieties, \$10. Best display of pears, silver cup, \$20; best 6 varieties, not less than 6 of each, \$10." The same for peaches, four large prizes for grapes, and equally liberal prizes for other classes of fruits, vegetables and flowers, including a \$25 silver cup for the best design of cut flowers.

We also notice the following liberal item among the Rules for the show:

"With a view to the greatest usefulness, the society has opened the door to *all cultivators*, irrespective of *location*; and respectfully invites them to join in competing for the prizes, and to aid the society in its efforts. Competitors who are not members are expected to pay one dollar, as a recording fee for their articles, and otherwise conform to the rules and regulations of the same."

"The Ohio great agricultural fair, the Ohio Mechanics' Institute exhibition, the assembling of the American Pomological Congress, are all appointed to take place at the same time in our city, making it an occasion of unusual interest to all; especially to our brethren at a distance, it offers great inducements to attend. It is exceedingly desirable that the fruit-growers of the west should bring specimens of their collections for the inspection of the Pomological Congress, which will be composed of the most intelligent from all the states and the Canadas."

NEW VERBENAS.—*Dear Sir*—I intend sending you, in a few days, some half dozen new Verbe-

nas, that I am sure will not only greatly please and improve your collection, but show something new in the way of foreign varieties of this beautiful "summer long" ornament of all our tasteful little gardens, as well as an unequalled class of plants for beds or masses cut in grass lawns, vases, &c. An opinion has been long abroad (on no authority whatever) that the seedlings of the English florists were not to be compared with those of our own country; many gardeners from the other side joining in the opinion, who, it is no breach of charity to presume, had never seen a good neighborhood of London collection;—experience has proved the contrary, and that many superb seedlings have been raised of late, both in England and France; nor can it be denied that the BRIELLS of New Jersey, Mr. BUIST, FEAST and HOVEY, have produced creditable sorts, yet by far the majority are deficient in size of the flower umbel, the petal thin in substance and confusedly set, and most of them having a tendency to grow *upright*, instead of that indispensable quality, *dwarf*, closes spreading habit, broad segment of petal, well defined eye and good foliage, (in which there is a, much difference among verbenas as among dahlias) and that have sufficient stamina not to be burned out of existence by midsummer, which I have found by actual experience to be so much the fault that I don't intend to keep over a half dozen of our own varieties in my collection. I say this, not having the slightest prejudice in favor of foreign sorts, but as the citizens of Flora's dominions are citizens of the world, and true republicans, we must patronize the *best*, no matter where produced. I have come to this determination after a successful experiment last summer with a few foreign varieties. Having noticed much said in the English horticultural journals, and exhibition reports, of a new scarlet, called "Robinson's Defiance," and at a price (7s. 6d. sterling) so much higher than usual, (2s 6d to 5s being the minimum,) set on a verbenas, that I resolved to import this and a few others. After repeated and unsuccessful attempts to get them out alive, I at length caught the far famed "Defiance" with a spark of life; which, with some three or four others, saved from a long list, and set to work to recover them from their sea sickness; accomplishing this, I turned them out early in July, into a bed of rich light loam, and like all sensible emigrants, they soon found they were in a "New World," and before a month, began to spread themselves. This was the case with especially Robinson's Defiance, which formed a wide but compact bed, and sent forth an array of scarlet bloom as satisfactory as it was dazzling in colour, continued without intermission under a vertical sun, (although continually checked by close cutting for propagation.) I have found it a durable variety to flower in large pots or vases. With a little management, it can be made to flower in the green-house all winter, which plants can be again turned out into a bed in May; it how-

ever propagates so freely, that a good stock can be reared during the winter in the green-house for bedding out purposes next season; and as it is well known that *young* established plants are best, for that purpose they will be preferred. "Robinson's Defiance" will have a celebrity wherever seen, that no other verberna has ever acquired, and in England this day stands at the head of the list, particularly among the scarlets, no seedling having before approached it in the qualities constituting a first-class flower.

With regard to the general culture of the verberna, so many have written long winded essays on the subject as to leave but little to be said. I have found the best method, an adherence to a succession from May to August of young plants; as soon as the first planting is a little past the first bloom, take a few cuttings, whether in bloom or not is of no consequence. They will soon strike in a cool shaded corner of the green-house or an empty frame; protect from strong light, and in less than a fortnight they will be rooted, and then transplant each into small pots and place these in a cool shaded exposure; in a few days you will find the young roots have filled the pots and are creeping out at the bottom; keep turning them out in new beds, or old ones, or at any favorite end or turn of your garden flower beds when no void space occurs in the borders; you will soon have, from a single plant, a *broad luxuriant patch*. I have found this to be the case, especially with *Defiance*, *Beauty Supreme*, *Rosy Morn*, and *Satellite*, all flowering in one mass till the end of the season. *Beauty Supreme* is a superb variety, and when planted as a companion to *Defiance*, forms a beautiful contrast—the one being bright scarlet and the other a delicate peach-pink, and both being immense flowerers. *Queen* is also a good old sort, and although of too erect a habit has such a profusion of delicate, white, *sweet-scented* flowers, as to render it, until a better supplants it, an indispensable variety. . . . *Astoria*, Jan. 22, 1850.

SELECTION OF ROSES FOR THE SOUTH.—I have esteemed the rose ever since boyhood, when my mother—an ardent lover of flowers—had but three or four varieties. I recall them very vividly, though 'tis forty years since. There was the—now universally known—*Blush Indica* or *Daily*, the old-fashioned *Damask*, and an exceedingly full, and profusely blooming rose, then commonly called the *Medicinal* Rose, though since known as one of the endless varieties of the Gallica tribe, dwarfish in its habit, and soon making itself a nuisance with its interminable stolones. In 1814 a neighbor, who had served a six months tour of military duty on the coast near Charleston, introduced the common *Multiflora*. Never shall I forget the arbor, thirty feet long, at his beautiful seat in the neighborhood, formed of a single plant of this rampant and lovely variety.

Years rolled on, and Latin and Greek drove

roses and all other flowers out of my head, till about 1823. Since then, year after year has ushered in variety after variety, new kinds have been constantly displacing older ones, as good and—in many instances—better than themselves, till, within the last ten years, lists of the rose have swelled into books, and the amateur is nearly at a loss to decide as to what sorts he should order from a distant nursery.

The catalogues are apt to confuse men; there are such discrepancies in classification and nomenclature. We have, in Athens, no fewer than four roses, claiming the name of *King of the Crimson*s; and I shrewdly suspect that not one of them has any right to it. We have two *Gloire de France*, as dissimilar as can well be imagined.

A friend has asked me to prepare a list of good roses which I have tested myself, or seen tested by others. I append it, and shall follow it up with some remarks, such as will, at least, justify the heading adopted for this communication.

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| 1. <i>Banksia</i> .
Yellow,
White. | Triumph of Luxemburg,
Eugene des Gaches. |
| 2. <i>Multiflora</i> .
Common,
Greville,
Laure Davoust. | 8. <i>Indica</i> or <i>Daily</i> .
Belle di Mousa,
Cramoisee Superieur,
Indica alba,
Roi de Cramoisees,
Sanguinea,
Laurencia,
Pompone, or Indica minor. |
| 3. <i>Prairie</i> .
Baltimore Belle,
Queen of the Prairies. | 9. <i>Bourbons</i> .
Hermosa,
Madame Desprez,
Monthly Cabbage,
Souvenir de Malmaison,
Cytheree,
A'Fleur de Nerium. |
| 4. <i>Austrian</i> .
Harrison's,
Persian Yellow. | 10. <i>Remontantes</i> .
Complexe du Chatel,
La Reine,
Madame Lafay,
Mrs. Elliott,
Prince Albert,
Poupree de Tyre. |
| 5. <i>Chinese Hybrids</i> .
Bouquet Blanc,
George the Fourth,
La Tomterelle,
Pallagi,
Reine de Belgique,
Madame Planter. | 11. <i>Microphylla</i> .
Red Microphylla,
Double White McCartney,
Maria Leonida. |
| 6. <i>Noisette</i> .
Aimie Vibert,
Champney,
Chromatella,
Comtesse de Grillon,
Fellenberg,
Gen. Lamarque,
Le Pactole,
Lutea or Smithii,
Ophirie,
Solfataire. | 12. <i>Moss</i> .
Common,
Luxemburg. |
| 7. <i>Tea Roses</i> .
Barbot,
Bougere,
Flavescens,
Melvillii,
Odorata, | 13. <i>Garden Roses</i> .
Village Maid,
Madame Hardy,
Triumphant,
Common White May,
Old Damask. |

I give the above, as I have said, because I have tried the major part of them myself, and have them in my shrubbery. Less than twenty-five dollars would secure strong plants of all. Yours, J. P. W. University, Athens, Georgia, January, 1850.

GRAFTING OLD APPLE ORCHARDS.—I have in the same enclosure with two hundred young grafted apple trees, one hundred old trees of natural fruit, the bodies of which are sound, and, to all appearance, healthy. The trees have been

neglected, and more or less of the branches are dead; and the remainder appear stunted in growth, yet bear some ordinary fruit. The soil is good, rocky, upland loam,—never having been ploughed or reduced by cultivation. Can I make anything out of the old trees by pruning and grafting them? or had I better cut them down and reset the ground with young trees? *A Subscriber. Cheshire county, N. H., Dec., 1849.*

[If the trees are not in their period of decay, that is, if they are not past the middle age, graft them over by all means. See the account of grafting old trees in our last volume, by our correspondent at Hartford. Ed.]

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PROTECTING TREES AGAINST MICE.—As this is the time for young fruit trees to suffer from being barked by mice and rabbits, a suggestion may not come amiss to some readers, from one who has lost fine trees in this way. In the course of the summer of 1848, observing that the mice were commencing their gnawings on some young fruit trees, I prepared the soot and milk prescription, and administered a coat to the whole lot—some two hundred. I noticed no more of their operations, until in the winter, it was found they were at work in a pretty large way; but in hopes they would have some little compunction, and not girdle any trees, the matter was left over till the spring of 1849. [The soot and milk should be *newly* applied at the commencement of winter. Ed.] Upon examination then, it was found that numbers were completely girdled; and discovering them one after the other, in rapid succession, it was enough to make one sick. They who plant and watch the growth of these interesting objects, can appreciate the feelings of those who lose them. The trees were thrifty, two and three years old; and after sighing over the loss of some forty of them, the climax was capped by finding the thrifty Bartlett, which had borne fine fruit, was irreparably lost. This determined me upon *tinning* each tree; and I immediately procured a box of tin in sheets 14+20 inches, which were cut in half, making sheets 14+10 inches, and by making them into tubes—say around a shovel handle—14 inches long, we had a protection for each tree until it shall grow to be—say 3 inches in diameter. These were secured around the trees by thin wires, one at the top and another at the bottom, except in the case of peaches and other rapid growers, where the wire was omitted,—the tin retaining its shape and protecting the tree, yet not interfering with its growth. With those of slower growth, the wires may be left until the size of the tree makes it necessary to remove them. The tins, from their shape, will still protect,—yielding as the tree increases in size.

So far, it has answered the purpose. They were put around the trees last 6th mo., (June,) and as yet, neither trees nor tins are disturbed. I was compelled to tin horse-chestnuts also,—se-

veral being injured; and one girdled by these little operators.

I suggest tinning to those readers who value their trees, and are in localities exposed to such depredators. The cost of the tin, from N. TROTTER & SONS, Philadelphia, was then \$10 per box of 100 sheets, each of which, cut in half, made them 200 sheets; the cost of each sheet being then 5 cents, and the turning the tins and putting around the trees being done by oneself in scraps of time, the cost for each tree, including wire, is not more than 6 cents. One hundred trees will then cost \$6, and the owner be saved from watching, and mixing, and repeating sooting, and, in some cases, from the loss of fine trees. Had my trees been tinned before, it would have cost—say \$12, but would have saved what was worth to me \$50. All which is respectfully submitted, by thy constant reader and friend, *C. L. S. Philadelphia, 5th mo., 1850.*

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OLD TIME HORTICULTURE.—The following letter of COLLINSON, one of the most noted botanists of an hundred years ago, contains hints of the most prevalent *notions* of culture now-a-days; and will make our readers who believe, with SOLOMON, that there is “nothing new under the sun,” feel quite complacent. The “beetle” is, no doubt, our curculio. COLLINSON was evidently a sound horticulturist. “Littering Gooseberries” is the last of our *modern* notions; and here COLLINSON urges it a century ago! Ed.

Now, Friend John, I come to consider further of some of thy observations, by thine of the 10th of December. I am glad to find that thee art so so well recovered, and that all the goods are come safe to hand, and please; which is more than I expected, and ought not to excuse thee from being more particular and exact in thy orders next time.

Though thou canst not see, yet I have told thee what inoculating on a peach stock may do. If I am not out in my conjecture—as it is a free stock, and sends up its sap plentifully—it may assist the nectarine and apricot, at a season when supplies are wanting. As thou hast tried the north side of building, and sides of water courses, &c., to no purpose, with plums, pray give the other fruits as fair a chance.

To prevent the depredations of the beetle, I confess, is not so easy as some other bad effects; yet, as we know the duration of this insect is but short, if, while he is so noxious, some contrivance could be found out to disturb or destroy him, you then might hope to taste a nectarine,—one of the most delicious fruits in the universe, and much exceeds a peach, in a rich, vinous-flavored juice. And an apricot is also one of the fine fruits. Last year our standards were overloaded, which are allowed to excel the wall fruit.

Suppose, as soon as this beetle is discovered, if the trees were to be smoked, with burning straw under them, or at some distance, so as to fumi-

gate their branches, at a time the beetles are most liable to attack the fruit; or, if the trees were to be squirted on by a hand engine, with water in which tobacco leaves were soaked; either of these two methods, I should think, if they did not totally prevent, yet, at least, would secure so much of these fine fruits as would be worth the labor of people of circumstances, who are curious to taste these fine fruits in perfection.

I take it, the reason the plum succeeds so well, is the frequent shaking the trees, by being planted in a frequented place. The beetles are tumbled off, or else are disturbed and frightened from settling on the trees; and the ground being trod so much, may be a great help, by keeping in the moisture which is so conducive to bring the fruit to maturity.

This brings to my mind a contrivance I was told, a few days ago. An Englishman went and settled at Naples, about your latitude, and writ over to P. Miller, that apricots thrived very well, but all the fruit dropped off, which he was surprised at; for he expected the finest fruits in that fine climate. But he was mistaken; for the natural fruits of that country are figs, pomegranates, olives, grapes, oranges and lemons. My friend Miller writ him word, to lay a great deal of muck (rotten dung and straw mixed,) or a great quantity of fern leaves, or any compost that would keep the ground moist, and prevent the sun's action, which is very penetrating in that country, as well as with you.

This had the desired effect; and the gentleman writes him word, that since he has practiced it, he has never failed of fruit in plenty, and in the greatest perfection.

Now, Friend John, improve this hint; and if your apricots are too forward, plant them under all disadvantages possible; that is, in the most exposed places, and in all the coldest, shadiest aspects that can be found. Perhaps, when mountains come to be settled, the north sides may succeed with this fruit and others, and may not be so much frequented by the beetles. I apprehend if your gooseberries were littered, it would prevent their dropping off; and if this litter was now and then watered, both under the apricots, &c., it would be of service.

Friend John, I have writ more fully by Captain Mesnard; but this will hint to thee thy good fortune of all thy cargoes coming safe, which is great luck these very perilous times. Now farewell. *P. Collinson. London, April 26, 1746. [Darlington's Memoirs of Bartram.]*

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ANSWERS TO CORRESPONDENTS.

MISCELLANEOUS.—*F. K. Phoenix*, (Delavan, Wis.) CRANBERRY. The cranberry may be raised from seed, by planting the seeds (after freeing them from the pulp,) in a common frame, (without manure.) The frame should be placed in a shady place, and covered with glass or oiled cot-

ton sashes, and watered every day till the plants are up and well established. After they are an inch high, the lights may be removed, and the plants left to grow all the season—watering them frequently. The seeds may be planted in autumn or spring, and the soil should be half sand and half decayed leaves or peat. JAPAN LILIES succeed well in the open air, but should have very deep, rich soil, and a situation where the mid-day sun does not reach them. Your Tuberose and Amaryllis bulbs do not flower, because they do not fully complete their growth. Put them in pots, and stand them immediately in a hot-bed, and about the 10th of May turn them out in a rich sunny border, and they will reward you *next* year.

MARKET FRUITS.—*P.*, (Wisconsin.) A good selection of 25 sorts of market orchard apples is the following: *Summer*—Red Astrachan, Early Harvest, Early Strawberry. *Autumn*—Porter, Gravenstein, William's Favorite, Fall Pippin, Jersey Sweeting, Summer Sweet, Paradise. *Winter*—Rhode Island Greening, Baldwin, Yellow Bellefleur, Roxbury Russet, Fameuse, Jonathan, Lady Apple, Ladies' Sweeting, Northern Spy, Nonsuch or Canada Red, English Russet, Danvers Winter Sweet, White Bellefleur, and, for deep limestone soils, Newtown Pippin and Esopus Spitzenburgh.

SMALL GREEN-HOUSES.—*W. Rice*, (Bridgewater, Va.) The most convenient shutters are made of the thin half inch boards, called "siding," which are very light. The oil-cloth will answer, but requires more care and trouble in managing it, especially in snowy and frosty weather. The only object in putting a sheet iron door to the air-chamber, is to prevent its being burned. If it is so far from the fire that this cannot occur, then a wooden one will answer.

FRUITS THAT BEGIN TO BEAR EARLY.—*W. K. White*, (Athens, Geo.) *Apples*—Red Astrachan, Yellow Bellefleur, Baldwin, Rhode Island Greening. *Pears*—Bartlett, Dearborn's Seedling, Beurre Bosc, B. Diel, Louise Bonne de Jersey, Beurre d'Aremberg, Seckel. *Plums*—Lombard, Jefferson, Downton Imperatrice, St. Martin's Quetsche. *Cherries*—May Duke, Black Tartarian, American Heart, Downer's Late.

PEARS.—*F. L. O.*, (Staten Island.) You can double-work the Flemish Beauty pears on Quince. *An Enquirer*, (Augusta, Geo.) Your trees have evidently suffered from the heat of the sun. They would have done better on the north slope of the hills. As it is, mulch the ground over the roots, and bind a loose covering of straw around the trunks and principal branches. If you wish large and fine Stokel pears, you must give a *very* liberal supply of manure. *A. P. Johnson*. The natural pear trees, 10 inches in diameter, may be grafted very easily, and will in three years give you a large crop of fruit. Begin with the top; graft the upper half of the head this year, and the

lower half next. The Bartlett, Gray Doyenné, and Beurre d'Aremberg, will best answer your purpose.

EVERBLOOMING ROSES.—*P. B.*, (Norwalk, Ct.) Souvenir de Malmaison, *blush*, Souchet, *deep crimson*, Acidalie, *white*, are three of the most satisfactory, hardy Bourbon roses for beds. They will bloom all summer and autumn; and the deeper and richer your soil, the more roses. *A. T.*, (Montreal.) From your account of your roses, we should suppose your soil was worn out. The best way of renovating it for roses, (and almost anything else,) is to prepare a heap of *burnt sods*. After burning, chop it up and use it plentifully about your plants. It will work wonders when manure seems of little value.

EARLY MELONS.—*B.*, (Albany.) The best mode of raising early melons, (one which insures you

against the striped bug,) is that of starting the plants in a frame on small squares of sod, as described in this journal a year ago. Cucumbers and all this tribe may, in this way, be grown three degrees farther north than they can otherwise be in the open air.

PRUNING GRAPES.—*A Constant Reader*, (Easton, Pa.) Do not be afraid to prune your vines. All the bleeding that results from cutting last year's wood will not hurt them in the least. A liberal top-dressing (say a peck to a vine 8 years old,) of *plaster* will greatly benefit the crop.

MANURES.—*R. P. G.*, (New-York.) Use your coal ashes on cherry trees, evergreens and Indian corn. Poudrette is the best manure for strawberry beds. You can give the beds a sprinkling one-third of an inch thick without doing any harm to the plants, and it brings no weeds.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society was held in the Chinese Saloon, on Tuesday evening, February 19, 1850.

The President, on taking the chair, tendered his acknowledgements to his associates, for the compliment paid him in his recent re-election to office. The honor was originally conferred whilst he was absent from the city, in a distant part of the country; and has been in many successive periods repeated by the unanimous expression of his fellow members. These kind and unabated evidences of regard, had excited his most grateful feelings, and imposed upon him the duty of endeavoring, by increased efforts, to enhance the reputation, promote the interests, and maintain the discipline of the society, during the brief remaining period with which he expected to be connected with it as presiding officer. He proposed addressing the society on topics interesting to it at the October meeting, which he presumed would be held, as usual, in the lecture room. He was obliged to postpone gratifying his wishes in this respect upon the present occasion, for a similar reason to that not long since urged by a distinguished gentleman elsewhere, when complaining of the "noise and confusion" which surrounded him.

Owing to the sudden change from mild to cold weather during the day, the display of plants was not as fine as might otherwise have been expected; yet it afforded gratification to the numerous visitors in attendance. The collection from the president's green-house was in fine bloom; and from Mr. Buist's, there were several beautiful plants, one of which was *new*, and shown for the first time—the *Bignonia picta*; and fully as attractive were his cut *Camellia* flowers, consisting of seventy-seven specimens of the choicest varieties, covering a large table. The designs and baskets of cut flowers evinced taste in the arrangement. There was a good display of vegetables, among which were seen new potatoes, mushrooms, sea-kale, rhubarb, asparagus, lettuce, fine radishes, and the usual varieties.

Premiums awarded on the occasion were,—by the committee on plants and flowers,—for the best six regularly shaped *Camellia* flowers, for the second best six ditto, for the best six irregularly shaped ditto, and for the second best six ditto, to Robert Scott, foreman to Robert Buist. For the best three specimens of hot-house plants in pots, and for the best three green-house plants, to Ben Daniels, gardener to Caleb Cope. For the second best three green-house plants, to Robert Scott. For a collection of plants in pots, and for the best design of cut flowers, to Ben Daniels. For the best hand bouquet, to Benjamin Gulliss. For the best basket of cut flowers, to Ben Daniels; for the second best basket, to Wm. Hall. The committee make mention of a *new plant*, exhibited by Robert Buist—the *Bignonia picta*.

By the committee on fruit. For the best six specimens of pears, (Echasserie,) to H. N. Johnson. For the best one dozen

apples, (Wine Sap,) and for the second best ditto, (Cooper's Redling,) to John Perkins.

By the committee on vegetables. For the best display of vegetables, by a commercial gardener, to Anthony Felten; for the second best display, to Albinus L. Felten. For the best display by amateur gardeners, to James Liddy, gardener to Pierce Butler; for the second best ditto, to Ben Daniels; and for the best mushrooms, to Ben Daniels. The committee notice fine asparagus, by Wm. Johns, also a display of cauliflowerers, by Anthony Felten.

The committee of finance reported, having examined the treasurer's statement of accounts, which they found correct.

Members elected to Honorary Membership.—Dr. J. A. Kennicott, of Illinois, Dr. Herman Wendell, of Albany, N. Y., Hon. James Arnold, New-Bedford, and Mrs. Catherine Stanley, of East Hartford, Conn. To resident membership—R. W. D. Truitt, and Thomas O'Brien.

OBJECTS SHOWN. Plants.—By Ben Daniels, gardener to Caleb Cope, *Zygopetalon striatum*, *Bilbergia ibiroidifolia*, *Bletia Tankervilleæ*, *Habrothamnus elegans*, *Raphiolepis indica*, *Gesneria zebrina*, *Æschynanthus parasticticus*, *Azalea Cillinghamii*, *Cyclamen persicum*, *Veltheimia viridiflora*, *Camellia candidissima*, and *Primulæ sinensis*.

By Robert Scott, foreman to Robert Buist, *Bignonia picta*, *new*, and shown for the first time. *Azalea splendens*, *Williamsii* and *Double Red*; also cut *Camellia* flowers, varieties, *Imbricata*, *Duchess of Orleans*, *Sarah Frost*, *alba-plena*, *Henri Favre*, *Fordii*, *Sherwoodii*, *Fimbriata*, *Fielder's Queen*, *Binneyii*, *Landrethii*, *Hume's Blush*, *Chandeleii*, *Prince Albert*, *Rex Batavia*, *Marchioness of Exeter*, *Grahamii speciosa*, *Donkalaria variegata*, *latifolia*, *Emily*, *Philadelphia Woodii*. Five very fine seedlings, and forty-eight other specimens.

By Ben Daniels, a design in form of a temple, covered with moss, and tastefully ornamented with flowers, and a beautiful basket of choice flowers.

By William Hall, a very neat basket of flowers. By Benjamin Gulliss, a tasteful hand Bouquet; and by Patrick Burk, a hand bouquet.

Fruit.—By Henry N. Johnson, pears, Echasserie. By John Perkins, apples, Wine Sap and Cooper's Redling.

Vegetables.—By Ben Daniels, gardener to C. Cope, new potatoes, mushrooms, bush beans, rhubarb, sea kale, radishes, lettuce, Brussels' sprouts, carrots, beets, celery, and other varieties.

By James Liddy, gardener to Pierce Butler, a large display of Royal cabbage, lettuce and long salmon radishes.

By Albinus L. Felten, of green-house culture, Coss and Butter lettuce, long scarlet and white turnip radishes, asparagus, parsley, mint, cut salad, peppergrass and chives.

By Anthony Felten, a large display of almost every variety. Adjourned. THO. P. JAMES, Rec. Sec'y

Horticulturist

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In the old fashioned way of travelling, "up hill and down dale," by post coaches, it was a great gratification (altogether lost in swift and smooth railroads,) to stop and rest for a moment on a hill-top, and survey the country behind and about us.

Something of this retrospect, is as refreshing and salutary in any other field of progress. Certainly, nothing will carry us on with such speed as to look neither to the right or left, to concentrate all our powers to this undeviating straight forward line. But, on the other hand, as he who travels in a rail-car knows little or nothing of the country, except the points of departure and arrival, so, if we do not occasionally take a slight glance at things about us, we shall be comparatively ignorant of many interesting features not in the straight line of "onward march."

One of the best signs of the times, for country people, is the increase of agricultural papers in number, and the still greater increase of subscribers. When the Albany Cultivator stood nearly alone in the field, some fifteen years ago, and boasted of 20,000 subscribers, it was thought a marvelous thing,—this interest in the intellectual part of farming; and there were those who thought it "could not last long." Now,

that there are dozens of agricultural journals, with hundreds of thousands of readers, the interest in "book farming" is at last beginning to be looked upon as something significant; and the agricultural press begins to feel that it is of some account in the *commonwealth*. When it does something more—when it rouses the farming class to a sense of its rights in the state—its rights to good education, to agricultural schools, to a place in the legislative halls, where farmers shall not only be talked about in complimentary phrase, as "honest yeomen," or the "bone and sinew of the country," but see and feel, by the comparison of power and influence with the commercial and professional classes, that they are such, then we shall not hear so much about the dangers of the republic, but more of the intelligence and good sense of the people.

Among the good signs of the times, we notice the establishment of an Agricultural Bureau at Washington. At its head has been placed, for the present at least, Dr. LEE, the editor of the Genesee Farmer,—a man thoroughly alive to the interest of the cultivators of the soil, and awake to the unjust estimation practically placed upon farmers, both by themselves and the country at large. If he does his duty, as we

think he will, in collecting and presenting statistics, and other information showing the importance and value of the agriculture of the United States, we believe this Agricultural Bureau will be of vast service, if only in showing the farmers their own strength for all good purposes, if they will only first educate, and then use their powers.

In our more immediate department—horticulture—there are the most cheering signs of improvement in every direction. In all parts of the country, but especially at the West, horticultural societies are being formed. We think Ohio alone, numbers five at this moment. And as the bare formation of such societies shows the existence of a little more than private zeal on the part of the inhabitants in gardening matters, we may take it for granted that the culture of gardens is making progress at the west, with a rapidity commensurate to the wonderful growth there in other respects.

It is now no longer a question, indeed, that horticulture, both for profit and pleasure, is destined to become of far more consequence here than in any part of Europe. Take, for example, the matter of fruit culture. In no part of Europe has the planting of orchards been carried to the same extent as it has already been in the United States. There is no single peach orchard in France, Italy or Spain, that has produced the owner over \$10,000 in a single year, like one in Delaware. There is no apple orchard in Germany or northern Europe, a single crop of which has yielded \$12,000, like that of Pelham farm, on the Hudson. And these, though unusual examples of orchard cultivation by single proprietors, are mere fractions of the aggregate value of the products of the orchards in all of the northern states. The dried fruits—apples and peaches alone, of western New-York—

amount in value to very large sums annually. And if we may judge by what we hear, orchard culture, especially of the finer market fruits, has only just commenced.

We doubt if, at any horticultural assemblage that ever convened in Europe, there has been the same amount of practical knowledge of pomology brought together as at the congress of fruit-growers, last October, in New-York. An intelligent nurseryman, who has just returned from a horticultural tour through Great Britain, assures us that at the present moment that country is astonishingly behind us, both in interest in, and knowledge of fruits. This he partly explains by the fact, that only half a dozen sorts of each fruit are usually grown in England, where we grow twenty or thirty; but mainly by the inferiority of their climate, which makes the culture of pears, peaches, &c., without walls, an impossibility, except in rare cases. Again, the fact that in this country there are so many landholders of intelligence among all classes of society—all busy in improving their places—whether they consist of a rood or a mile square—causes the interest in fine fruits to become so multiplied, that it assumes an importance here that is not dreamed of for it on the other side of the water.

With this wide spread interest, and the numberless experiments that large practice will beget, we trust we shall very soon see good results in the production of *BEST native* varieties of the finer fruits. Almost every experienced American horticulturist has become convinced that we shall never fairly “touch bottom,” or rest on a solid foundation, till we get a good assortment of first rate pears, grapes, &c., raised from seeds in this country; sorts with sound constitutions, adapted to our climate and soil. With great respect for the unwearied laborers of VAN MONS, and others who have

followed his plan of obtaining varieties, we have not the least faith in the vital powers of varieties so originated. They will, in the end, be entirely abandoned in this country for sound healthy seedlings, raised directly from vigorous parents.

Far as we are in advance of Europe, at this moment, in the matter of pomology, we are a long way behind in all that relates to ornamental gardening. Not that there is not a wonderful growing taste for ornamental gardening, especially in the northern and eastern states. Not, indeed, that we have not a number of country places that would be respectable in point of taste and good cultivation everywhere. But the popular feeling has not yet fairly set in this direction, and most persons are content with a few common trees, shrubs, and plants, when they might adorn their lawns and gardens with species of far greater beauty.

One of the greatest drawbacks to the satisfaction of pleasure grounds, in this country, is the want of knowledge as to how they should be managed to give rapid growth and fine verdure. The whole secret, as we have again and again stated, is in *deep soil*; if not naturally such, then made so by deep culture. Even the best English gardeners (always afraid, in their damp climate, of canker, if the roots go downwards,) are discouraged, and fail in our pleasure grounds, from the very fineness and dryness of our climate, because they will not *trench—trench—trench!* as we all must do, to have satisfactory lawns or pleasure grounds.

And this reminds us that a great want in the country, at the present time, is a sort of practical school for gardeners; not so much to teach them from the outset—for ninety-nine hundredths of all our gardeners are Europeans—as to *naturalize* their knowledge in this country. If one of the leading

horticultural societies, with ready means, (that of Boston, for example,) would start an experimental garden, and making, by an agency abroad, some arrangement with deserving gardeners wishing to emigrate, take these *freshmen* on their arrival, and carry them through a season's practice in the experimental garden, and let them out at the end of a year really good gardeners for our climate, they would do an incalculable service to the cause of horticulture, and to thousands of employers, besides getting their own gardens (like that of the London Hort. Society,) cultivated at little cost.

It may be said that gardeners would not enter such a preparatory garden, since they could find places at once. We reply to this, that if they found, after they had had their year's practice in this garden, and could show its certificate of character and abilities, they could readily get \$50 or \$100 a year more—as we are confident they could—there would be no difficulty on this head.

The Belgian government has just established such a school, and placed it under the direction of M. VAN HOUTTE, the well known horticulturist of Ghent. Something of the sort has been contemplated here, in connection with the agricultural college projected by this state. Considering the scarcity, nay, absolute dearth, of good gardeners among us at the present moment,—the supply not half equal to the demand,—it seems to us that some plan might be adopted by which we should not be at the mercy of those who only call themselves gardeners, but who also know little beyond the mysteries of cultivating that excellent plant, the *Solanum tuberosum*, commonly known as the potato. Good Mr. PRESIDENT WALKER, of the Massachusetts Hort. Society, cannot you help us to an experimental garden and *experimented gardeners*, out of that \$10,000 bequest left you last season?

ON THE FORMATION OF VINE BORDERS.

BY JAMES STEWART, WASHINGTON, D. C.

THIS subject has been so frequently and freely discussed, during the last few years, that any remarks I may make on the subject may be deemed superfluous. However, I will venture to give my views, relative to the construction of vine borders, and the best materials to be employed,—being the experience of many years, and in some of the most extensive establishments extant.

Some vine cultivators strongly insist upon the use of dead animals in vine borders, as the principal ingredient therein, and one necessary for the vine to produce its fruit in perfection. But I have frequently seen the ill effects of their use, particularly when introduced into borders that were planted *two or three years previously*. Although the vine is a gross feeder, still pure and well decomposed substances are necessary for its welfare. Nothing can be more pernicious, than to introduce a mass of putrid and decaying animal bodies, for the roots to extend their different ramifications in. In borders that have had dead bodies deposited in them, when made at the distance of 15 or 20 feet from where the vines are planted, so that they might become decomposed before the roots reached them, I never have been able to discover any superiority of the fruit, produced from such borders, over that of other borders, where nothing but soil was used, and their presence dispensed with. I also regard the system of making such large borders, in some instances fifty feet in width, to be a great error; although I may be told that additions at suitable periods, to encourage the roots, are not only beneficial but highly

necessary to produce good grapes. Such, however, is not the fact, although at every extension of the border fine young rootlets will be found; but what will be the state of the roots in the immediate vicinity of the house where the vine is planted? Examine, and you will not find any of those young rootlets there, but large, thick, black roots, totally destitute of young fibres; and the further the vine border is extended, the further will the ill effects of it be perceived. In these large, diffused vine borders, when top-dressings of rich manure are applied, (*liquid manures, also,*) what guide has the cultivator to go by? He cannot *determine* at what particular locality the food for the vine is most required; and it is certain that those large black roots cannot assimilate, and take up food for the use of the vine,—(the small rootlets and fibres performing that office.) The use of the richest manures cannot be of any essential service to them; consequently, it involves a waste of labor, manure, and land also. I am decidedly of opinion that a border *ten feet in width*, containing a depth of soil of about *two and a half feet*, are superior to one of fifty feet, and is capable of furnishing the rafters of any vinery that may be erected. My reasons for so thinking are the following, viz: that in largely extended borders, you cannot determine where the stimulants are most wanted; and if applied all over the border, only a small portion of the roots are benefitted. Whereas, if the vines occupied a border of only ten feet in width, the whole of the roots would be *concentrated* in that space; and whatever stimulants were applied would

be immediately taken up by the young rootlets. The cultivator would then know *exactly where to place his stimulants*; and any application of liquid manure would be immediately felt by the vines. A border of this kind could be kept in the highest possible order; as the vines could be supplied with any quantity of food, in a pure state, for the immediate consumption of the vines. It may be said, that there is not a sufficient quantity of soil for the vines to grow in. Such, however, is not the case; as the vines that were planted by Mr. JOHN SHERWOOD, when he occupied the Laurel Hill horticultural establishment, near Philadelphia, still produce abundant and beautiful crops, second to none that are grown in the vicinity of that city. These vines have been planted about *ten years*, inside the house, in a border raised above the surface,—being boxed up to within a foot or eighteen inches of the glass. The depth of the soil about three feet, and the width of the border three feet and a half; no dead carcasses or other offensive matter was used in its construction.

Vines that are planted at Mrs. CAMAC's residence, near Philadelphia, which had expensive diffused borders made, and by a good practical gardener, had large quantities of horses and other carcasses, slaughterhouse manure, &c., incorporated with the soil, certainly does not prove that putrid carrion is the most suitable manure to incorporate with vine borders, although they are under the *able superintendence* of Mr. ALEXANDER CAIE. The same may be said of the vineries at Andalusia, the seat of the late NICHOLAS BIDDLE, Esq., where vines are cultivated under glass, to a greater extent than any other place in the Union. It will be found that as good grapes can be produced without the use of dead carcasses as with them. The wood will be shorter

jointed, better ripened, and, consequently, more firm (without the use of dead bodies,) as I have had ocular demonstration of the above fact; and it frequently fell under my observation when I resided at Andalusia. The use of animal manure is apt to unduly excite the vines; and it will always be productive of long jointed, badly ripened wood, where there has been a superabundance of animal manure used. Consequently, this soft, spongy wood is not at all calculated to produce a fine crop of fruit. In my opinion, if animal manure is used at all, it ought to be thoroughly decomposed before it is incorporated with the border.

The Excavation.—In forming borders, it will be necessary to excavate the soil to the width of ten feet, the length of the house, and to the depth of three feet and a half. On all occasions the borders are to be located *outside the house*, when *cold vineries are intended to be erected*, and also for houses that are not forced previous to the beginning of March. The soil excavated to the required depth, width, &c., a four-inch wall should be built in the front and ends, so as to confine the roots to their *legitimate* space, which will be found amply sufficient to furnish a rafters thirty feet long with prolific vines. The bottom of the border should be neatly paved, and have a slight inclination to the front, where a drain should run the entire length of the border, to collect and discharge any superfluous moisture at the nearest convenient place. In houses that are designed for early forcing, and commencing in the first week of November, I should recommend that the border be raised, and run parallel with the back wall; the advantages of which will be noticed hereafter.

Drainage.—If the location of the vine border be on a heavy retentive soil, and in

■ situation naturally wet, great care must be taken to have it thoroughly drained; for upon perfect drainage depends your future success. No matter how judicious your treatment in the house is, if the *roots* are not in a vigorous and healthy condition, no satisfactory result can be obtained. Should the subsoil be a dry, gravelly bottom, less drainage will be required; and no situation so well suits the vine, as that which is thus drained by nature. I would recommend, in very low, wet situations, to adopt the same system of drainage as is practiced at Stradsett Park, Welbeck, and Alton Towers, and many other places in England, viz., *to chamber the border*; which may be accomplished by running nine-inch walls across the border, one foot high, and covering them with good flag stones, such as are used in paving streets; the larger they can be obtained the better. They should not be placed so close together as to prevent the superfluous moisture passing off into the bottom of the chamber. Ten or twelve inches of oyster shells should be placed on the top of the flag stones, previous to the earth being placed upon it. [A foot of loose small stones will answer just as well as this chamber.—Ed.] A drain should run along the bottom of the chamber at the front, and be conducted to the most convenient place to discharge any water that may settle there.

In borders that do not require to be chambered, one foot of oyster shells should be placed upon the *paved bottom*. The object of *paving the bottom*, is to prevent the roots penetrating deeper than the bottom of the border, whereby they will be freed from the “contaminating influence of a bad subsoil.” In no case should the border be elevated above the surface more than two or three inches.

Vineries that are to produce ripe fruit in

March and April.—In houses of this description, where forcing commences in November and December, it will be desirable that a wall be built, three or four feet from the back wall of the house, and run parallel with it, to the height of three feet six inches. The bottom of this should also be *paved*, and have an inclination towards the front. A brick should be left out at the distance of three feet apart in the first course of the wall. For drainage, oyster shells, *if obtainable*, to the depth of twelve inches, should be placed at the bottom; and whenever this border is watered, either with pure water or liquid manure, it should be thoroughly *saturated*, so that a copious discharge should run from the bottom. The advantage of these small borders over large diffused borders, in early forcing, is that the border, being elevated, attains nearly to the temperature of the house; and being in close proximity to the glass, has the advantage of the sun’s rays upon the surface of the border, which is a desideratum devoutly to be wished for, as the electrical rays of the sun-light are of the highest importance to the well being of the vines. Lastly, being planted at the back of the house, and the vines being trained downwards, under the rafters, it will have the effect to induce them to develop every eye in the vine, which will be found to be of the utmost importance to the cultivator, especially in *early vineries*. Houses that I recommended in my article, on “Culture of Vines in Pots,” will be admirably adapted for the purpose of early forcing. It is the system of the late PATRICK FLANNIGAN, who introduced it to notice some thirty years since. Vineries that he then planted are yet in fine order, and carrying splendid crops of fruit to this day; thus showing the capabilities of these small borders, when judiciously managed.

Soil.—The soil that I have found most suitable for vine culture, is the following: The top spit of an old pasture, of medium texture, to be pared not more than three inches in depth, and containing the greatest quantity of *turfy fibre* possible; well decomposed black, or *bog earth*, that has been well pulverised with the action of a winter's frost, and summer's sun, and frequently turned; well rotted horse manure—that from an old hot-bed is most suitable; *coarse ground bones*; gypsum, or sulphate of lime; dried night soil, or *poudrette*; and oyster shells, to render the border always *open* and *porous*; woolen rags, and scraps of leather. In a border that I saw made, at Whittlebury Lodge, Northamptonshire, England, the seat of Lord SOUTHAMPTON, fourteen years ago, which was made in an early vinery, the produce of which, up to the present time, has been the admiration of all who are fortunate enough to see the grapes in a ripe state, the following is the quantity of ingredients that was used,—the border containing fifty cart loads of soil: Turfy loam, 25 loads; rotten hot-bed manure, 5 do.; coarse ground bones, 50 bushels; bog earth, 5 loads; dried night soil, or *poudrette*, 50 bushels; 2 loads oyster shells; 8 loads woolen rags and leather scraps; 50 bushels of sulphate of lime, or gypsum. The whole was then incorporated, with the exception of the rags and scraps of leather, which were put in the border in *thin layers*. The result of this combination far surpassed the expectations of Mr. SOUTH, the gardener; and any cultivator using the same materials as pointed out, may, with judicious management in the house, realise a crop of grapes inferior to none.

Mulching.—This is an important operation in this climate, and is greatly neglected, in late graperies especially; and

upon this operation depends, not a little, the swelling of the fruit. Nothing can be more injudicious than to see a vine border, especially where late grapes are grown, elevated two or three feet above the surface, and having a considerable inclination to the south, finely raked over, and the fiery rays of a summer's sun evaporating every particle of *moisture* within its influence, to the depth of 15 or 18 inches,—the very place where all the fine rootlets and active feeders of the vine ought to be located. But under such circumstances, they are unable to exist there; it being absolutely nothing else but dry dust. Should rain happen to fall copiously, such borders are very little benefitted, as it runs off with nearly the same facility as water off a duck's back. When borders are properly mulched, no inconvenience will be experienced from *drouth*. As soon as there is an indication of a dry spell of weather setting in, the border should be immediately mulched; and if there has been a good day's rain previous to the operation, so much the better. In mulching vine borders, good half decayed leaves, or fresh cow manure, to the depth of eight or ten inches, will be found very efficient. As soon as the *extreme heat of summer* has passed, say early in October, it may be taken off roughly, and what remains may be forked into the border. The usual time for applying the leaves, &c., to the border, is from the middle to the end of May. Of course, this depends in a great measure on the season.

In Mr. CLEVELAND's article on vine borders, I see he ascribes the superiority of his grapes the past season to having used tan, as a stimulant for the vines. This, however, I think is erroneous; and with all due respect for him as a cultivator, I beg to say that, in my opinion, it can be traced

to the tan, acting as a protection to the young fibres and roots, being protected against the intense heat of the sun, and preserving the border in an equable state of moisture all the time, encouraging the rootlets to the surface, so that they had the benefit of atmospheric influence, without sustaining the least injury: [in this we quite agree.—Ed.] I will give you the routine of my practice in the cold vinery, should you deem it worthy of a place in the

Horticulturist, the first opportunity. I remain yours truly, JAMES STEWART.

[Mr. STEWART's materials for composing the border are good, and we agree with him respecting the size of the border, *when inside the house*, for forcing. But we believe the mass of experience will be found against him in this country, as regards small outside borders for cold vineries. Perhaps our correspondents will have a word to say on this subject. Ed.]

ON TREES AND SHRUBS NEWLY PLANTED.

BY D. BEATON.*

Now [last of Feb., Ed.,] is a good time to look over the flower garden and shrubberies to see what can be done for young trees and shrubs, that have not thriven since they were planted, and for older ones that once promised to reward us for our careful attention, but which from some cause or other are not looking so well as they ought to do. There need be little fear about such plants as were removed late last spring, being yet in no very promising mood, as few seasons within my memory have been so ill suited for young things newly planted. They experienced extremes of cold and dry heat before their roots could take much hold of the soil, so that many of them lost their leaves, and are still looking far from being healthy; their roots, however, must have made great progress since last August, for we never had a better autumn, and, I was going to say, or a longer, one for planting and for lately planted things; so that, with judicious pruning this winter, we may reasonably calculate on a fine vigorous growth next season. All plants that are much stunted from a recent transplanting ought to be pruned very close before they begin to grow next spring, for of all the hopeless things in this world to expect that a free circulation of sap can run through a stunted hide-bound shoot is the most hopeless, and we have no means of remedying this but by

close pruning, and in future to be wiser, and get our pruning and planting finished before the winter sets in, so that the roots may be in action in the spring as early as the leaves. It is not too much to say, that in our climate every tree and bush, every climber and twiner, with all trailers and creepers, and the whole race of evergreens, ought to be planted at the end of the autumn; and not only that, but all the pruning that is necessary, to bring the head of the plant within a compass corresponding to the strength of the mutilated roots, should be effected a full month previously to the removal of the plant, and *not at planting time*, as is generally done; unless indeed you are planting from a nursery, when of course the plants will not be pruned till you get them home. If I made up my mind to plant a certain evergreen tree or bush on the 20th of September, I would cut off all the branches, or part of the branches, that I thought necessary to be removed, as early as the middle of August; and if, during the interval, some of those branches that were headed made a fresh attempt at making another growth, I should like it all the better, as showing that the whole plant was so full of blood that the sap must either break the bark, or find a vent in an unseasonable growth at the tops of the main branches; and before this could take place, every bud on the tree, and every cell that

* From the Cottage Gardener, London.

composes it, must needs be as full of the rising juices as a newly laid egg.

Now, there cannot be two opinions amongst practical men about this being the very best state for a tree to be in at the moment the fork and pick are laid to its roots for removal. We may differ as to the best month for removing large plants, but we are all agreed—at least I hope so—on the point, that every bud on the transplanted tree ought to be in the best possible means for a start next growing season; and it is not too much to say, that, those buds left when a tree is pruned and planted the same day, are just in the very worst to renew their growth, because they are then, like all the rest of the lower buds on the tree, much less charged with sap than those situated towards the top of the branches, so that the most prominent buds must of necessity be removed in the process of pruning.

Not many years back, there was a widespread controversy as to the merits of pruning at the time of removing trees and shrubs; one order of practitioners maintaining that not a twig nor a leaf should be removed from a transplanted tree, because, as they affirmed, the more leaves a tree possessed the more capable it must be of renewing its roots; and this idea took such a firm hold of the rising generation of gardeners that to this day many of them believe that the more leaves a cutting has the sooner it must root. Many of the older members of our ancient craft scouted this idea altogether, but still they were much in the minority, and at last were well nigh outvoted altogether. At this critical point, Dr. Lindley's *Theory of Horticulture* was announced, and now, it was thought, "murder will out," and each party concluded that if the Doctor had any brains at all he must side with their view of the pruning question; at last the book appeared, and a most valuable and useful book it was, is now, and will be for the next two or three generations. A quotation from *Hale's Vegetable Statistics*, on the title page, was most ominous to the leaders on either side of the controversy. It runs thus—"Though I am very sensible that it is from long experience, chiefly, that we are to expect the most certain rules of practice, yet it is, withal, to be remembered that the likeliest

method to enable us to make the most judicious observations, and to put us upon the most probable means of improving any art, is to get the best insight we can into the nature and properties of those things which we are desirous to cultivate and improve." This only strengthened the views of both parties still more firmly, as also did the following remarks by the author in the beginning of his preface: "It is, I confess, surprising to me, that the real nature of the vital actions" (the living principle) "of plants, and of the external forces by which their are regulated, should be so frequently misapprehended even among writers upon horticulture; and that ideas relating to such matters, so very incorrect as we frequently find them to be, should obtain among intelligent men in the present state of what I may be permitted to call horticultural physiology." But the strangest part of the story is yet to be told. The Doctor proved by his "Theory" that both parties were quite right, and they had no occasion to make any fuss on a matter so really simple. The drift of his explanations may be summed thus:—If you remove a tree without much hurting its roots, you will have no reason to prune away any of the branches; for the more leaves it has, the sooner it will renew any of the roots that may have received any slight injury. On the contrary, if a tree is taken up badly, or, which is the same thing, if its roots are so situated that you cannot possibly get them all out without cutting part of them, then some pruning is necessary, because the large surface of leaves would empty the tree of its juices by perspiration faster than the roots in their crippled state would supply them. Now, any one well versed in the subject, and knowing the heartburnings which the question caused at the time, must see clearly enough that the author here weakened his own authority in thus striving to please both parties, or, at any rate, his anxiety not to displease either. A commendable policy with our intercourse with the world, but the last on which an independent mind should lean when dealing on the truths of science. The real state of the question stands thus, and we cannot gainsay it:—No man, or set set of men, ever lived, or ever shall live, accord-

ing to the present constitution of things, who could, or can, transplant a large tree without injuring its roots, and that very materially, and it is a mistake which almost all of us fall into to suppose that the power of the leaves for good is according to their number. Ten strong powerful leaves in a healthy vigorous state will do more good than five times the number in a languid state, as they are often seen to be the first year or two after a tree is removed. Therefore, the great aim of the planter should be to prepare his trees before their removal, so that whatever the number of the leaves may be in the following season, every one of them should be in a flourishing condition; for unless they are so, it is needless to look for a speedy restoration of the roots or branches. All ornamental trees and shrubs, particularly the latter, will require a little pruning, more or less, every season; but when the subject has been well attended to for years, all that will be needed can be easily done in summer during the growing season. When a tree or bush begins to get naked below, it is a sure sign that it ought to have been pruned long since, or that the situation is too crowded for it; for nakedness produced by starvation or old age always begins at the top of the plant. How plants become naked at the bottom is this: the first two or three tiers of the lower branches get overtopped by some of those immediately above

them, and these, by throwing off the rain and obstructing the sun from them, soon cause them to dwindle away by degrees until they die outright, and leave a naked void. This is the most common case of bad management, and it often results from a mischievous doctrine which has taken hold of some people's brains, and which they never cease pushing at you right and left. In the park and forest, it is all very well to see plants growing in their own way, and a naturalist may go and enjoy them there until his toes get frost-bitten; but within the boundary of the garden every plant ought to be attended to as carefully as if it were grown in a pot for a London exhibition; staked, trained, and pruned as regularly as a Geranium. But having occupied so much with these general remarks, I must put off the subject of pruning to another day; and meantime, any tree or shrub, or climber, which looks stunted, or in an impoverished state, ought to be examined at the roots, beginning by making a trench outside of the roots, as our editor advised to take up the Magnolia, at page 14; and after freeing the tops of the roots a little, and all the way round, shovel out all the poor soil, and fill the trench with a good compost of fresh soil and some rotten dung. If the plant is on the grass, put a layer of the bad soil under the turf before you replace it.

D. BEATON.

ROUGH NOTES ON HORTICULTURE, FROM THE WEST.

BY DR. J. A. KENNICOTT, OF THE GROVE, ILLINOIS.

A. J. DOWNING—*Dear Sir:* I have not only your general permission, but your direct encouragement, to furnish for your pages—"short notes, adapted to western readers," suggested by the text of the Horticulturist. For this roving license, I am truly thankful. It is a great pleasure for me to write on rural subjects; especially, as in this instance, where the thoughts are in the text before me. This pleasure I en-

joy, perhaps, like most inveterate gossips, at the expense of others. But of this, my readers are the best judges.

The science of horticulture, west of the state of Ohio, is in its infancy,—but a strong and promising infancy. "The young giant of the west," indeed grows apace; and though, as friend WIGHT says, his bony legs and brawny arms protrude from the sleeves of his coarse jacket, and the

bottoms of his trowsers, in rather a disproportionate and unpicturesque manner, still, there is muscular power there, and energy, and shrewdness, in the brain that surmounts the uncouth structure.

There is, perhaps, no better evidence of what we are doing, and intend to do, as horticulturists, than the fact that we have more nurseries in number, north of the capitol of our state, than you have west of yours, to the same area. This county—which is 16 or 18 years old, at most—contains within its bounds not less than 50 nurseries; all more or less respectable, and some quite as extensive as most eastern ones.

But to my "text." Your leader for January, on removing large forest trees, is peculiarly applicable to our prairie country. We have many desirable situations in the midst of our extensive prairies, where the configuration of the land, rising into comparatively bold and graceful swells, is well calculated to show off clumps of large trees to admirable advantage, and in pleasing contrast with the general nakedness, and monotony of the landscape.

In the city of Chicago, much has been done in this way; and with a few more such men as WM. B. OGDEN, HENRY HUBBARD, and Dr. EGAN, with our excellent *Prairie Farmer* to back them, Chicago will soon earn a just title to her arrogant synonym of "The Garden City." But hitherto few trees of large size have been successfully removed,—the integrity of the roots not being sufficiently preserved; yet of medium, and small sizes, a vast number of native forest trees now embellish the streets and lawns of our city. Still, it must be confessed, that perhaps a greater number have miserably perished, by being "set in the ground like posts." The principal trees in use, have heretofore been the

elm, hard and soft maples, cotton-wood (*Populus angulata*), and the universal locust. Very recently, a taste for our beautiful and hardy native *Coniferae* has been gaining ground in Chicago, and the west generally. Of these, we have millions, of suitable sizes, along the borders of the whole lake region. But, among these ever smiling objects, my particular favorite, the *hemlock*, is proscribed. I, however, reside in the country, and hold country notions.

And what can I say of arboriculture in the country? Alas! the picture so vividly drawn by your critic, JEFFREYS, is too near the truth. All here lies in its primitive nakedness; or stares, from the works of man, in scarred and blighted ugliness, a thousand times more desolate than the land as God made, and "the savage" left it.

When I settled at "The Grove," some 14 years since, there was, along the course of the Milwaukee road for many miles, some of the finest natural park scenery, principally burr oaks, [Overcup oaks,—*Quercus macrocarpa*—Ed.] with low spreading heads, that I have ever seen in any country. The exceeding beauty of these scattered trees, gracefully dotting the verge of the prairie, on the west side of the river, where trees are seldom found, and the bold outline of "heavy timber" on its eastern shore, with the lovely chain of blue islands, obscurely visible in the western horizon, rendered the whole landscape most truly delicious, and was the principal inducement to my remaining here. And now—these noble trees, that the swift fires of ages had spared—where are they? Ask JEFFREYS; he has told you, and in language that really seems as though, in some moment of forgotten inspiration, or during a fit of somnambulism, I had myself uttered his eloquent and truthful senti-

ments; so natural and familiar do his thoughts appear. God send us more such MEN. And perhaps my years, and my western education, may plead my excuse for congratulating the readers of the Horticulturist on the acquisition of such a thinker, and such a writer, as JEFFREYS. To his whole January article, to all he has written, I can but say, with the editor, "most excellent and sensible."

"*A Note on the Curculio.*"—We are sadly troubled by this "little Turk" here in the west. We hear everywhere groves of the native plum, where he has luxuriated time immemorial. At first I thought, and so wrote, that in the prairie, removed from the wild plum groves, there was little to be feared from his ravages. I so judged, because my trees nearest the grove, were invariably the greatest sufferers from the curculio; and in shaking for them, we would often take ten insects from a tree 8 rods from a copse of wild ones, to one from trees 40 rods removed. But I have lost faith in this sort of exemption. Last June, I saw a fine young plum orchard in the prairie, quite remote from timber, bearing for the first time; and every "set" bore one or more of the "crescent marks" of the destroyer. I have nothing new to add on the subject of this pest, except evidence of a fact, sometimes doubted, that though not inclined to travel, the curculio is not necessarily bound to one spot of earth. Would that he were; and that spot elsewhere than in Illinois, where I much fear, even with the aid of hogs, he will finally interrupt the cultivation of plums, apricots and nectarines.

"*Memoirs of John Bartram,*" &c.—There is one such man as JOHN BARTRAM now living. See his portrait faithfully sketched in an address, delivered in September last before the New-Haven County Horticultu-

ral Society, by S. B. PARSONS. Would that we had more such men. Would that we had one such in the west, to encourage us by his example, and aid us by his liberality.

"*Domestic Notices.*"—Thank you, Mr. Editor, for endorsing my notions with regard to stoves. This same prairie state is the land of stoves; and we have as many patterns as can be found in the Patent Office. I hate the whole breed of them, though, doubtless, like *pork*, they are useful, and perhaps necessary in cooking. But even here, I have a strange hankering for the old "trammel" and hooks. And I own, that I have liberally indemnified myself for the introduction of stoves elsewhere, by building a real old-fashioned, capacious, family fire-place in my original "log cabin," which I love like an old friend, and—sooth to say—have "embalmed," by surrounding it with other buildings, verandas, &c., besides a dense grove of trees, to "hide the nakedness of the land." And let me assure you, that in this primitive sitting-room, with a rousing fire of dry hickory logs, there is much comfort; and with the free air constantly sifting through the "chinking," there is more than comfort; there is pure food for the lungs, and plenty of it; and there is *health*, and almost entire exemption from "colds," and "croups," and "quinzies," and "all the long catalogue of ills" that infant "flesh is heir to," in the air-tight rooms, heated by "air-tight stoves" of our city residences.

"*Report of the Congress of Fruit-growers.*"—It would seem that the Report of the "convention," at Syracuse, is full as tardy in making its appearance, which I much regret, though to my certain knowledge all of the "copy," and most of the money collected, were in the hands of the printer during September. A short time since, one of the secretaries of the "con-

vention"—F. R. ELLIOTT—wrote me that the reports were printed, but from some unexplained cause, had not yet reached him for distribution.

Long ere you receive this, you will have seen notices of the liberal doings of the Cincinnati Horticultural Society, and the Ohio State Board of Agriculture, with regard to the next Congress. And it gives me great pleasure to be able to inform you, that I have enthusiastic assurances from many nurserymen and fruit-growers of the west, of their intention to be in attendance at Cincinnati, with "heaps" of apples, and "a right smart chance" of other fruits. God willing, I shall be there to enjoy the treat, and may hope to make a creditable display from "The Grove," considering that our trees are only from three to nine years from the nursery. But, what I wish

more particularly to urge upon the immediate consideration of the pomologists of the whole west, is the necessity of availing ourselves, for our own credit's sake, as well as the advancement of our noble science, of the opportunity which the courtesy of eastern horticulturists has accorded to our wishes, of being the first to issue a *volume of the Transactions of the National Pomological Congress*.

We can do this, my friends. I know fifty persons in the west, capable of making valuable and reliable reports. And the east, believe me, will not frown on our efforts; but, with their far greater knowledge, and experience, and facilities, will aid and encourage us, and welcome the "first fruits" of the education they have given to their children in the west.

The Grove, Illinois, January, 1850.

THE USES OF CHARCOAL.

BY CHARLES ROBINSON, HEW-HAVEN.

In preparing some stimulating, or rather nutritive fluid for watering my green-house plants this winter, I used, among other things, a small quantity of "fish guano;" an excellent preparation, made in this vicinity from the residuum of White fish, after the oil has been principally expressed for manufacturing purposes.

I made the preparation in a close cask, and it was so strongly impregnated with the peculiar odor, so rife in the summer season near the sea shore, that I could not introduce it into my house. Indeed, when the lid was raised, "*stand back*," was decidedly the order of the day.

To obviate this difficulty, I threw into the mixture (of sand six pails full) about two quarts of charcoal dust. The effect

was truly wonderful. The fluid soon became entirely inodorous.

Following out the suggestion, I put some finely pulverized charcoal into a cask containing rain water for use in my furnace, which, during the winter, had acquired an unpleasant smell, and with as gratifying a result.

My cistern, holding some fifteen hog-heads, is filled from the roof of my house, standing near a street much frequented, although regularly watered during the summer season. Whether the difficulty has arisen from the dust from the street, or from the fact that a grapevine overhangs a part of the roof, or because the cistern is closely covered, the water has nearly all the time had a slight unpleasant smell. Last summer the difficulty became so great

that I was compelled to have the cistern emptied and thoroughly scoured. This winter the trouble has been greater than usual; so great as to drive me to the unwelcome conclusion, that my cistern must be again broken up, emptied and cleaned.

Such was the condition of things when I made the experiment above described; and I very naturally went a step farther. Taking about 6 qts. of clean charcoal, finely powdered, I wet it thoroughly in a pail, and then poured it through the water pipe into my cistern.

In ten days the whole difficulty was removed. Indeed, the water became as clear, pure, sweet and soft as the purest which falls from the sky.

If this remedy shall prove as permanent and effectual as it now promises to be, it will add greatly to the comfort of my family, and I doubt not will be as acceptable and useful to many readers of your instructive and valuable journal.

CHARLES ROBINSON.

New-Haven, Ct., March 7, 1850.

ON THE BEAUTY OF OUR INDIGENOUS PLANTS.

BY DR. COMSTOCK, HARTFORD, CT.

A. J. DOWNING, Esq.—*Sir*: The following list of native plants are growing in my garden. With the exception of *Trillium grandifolium* and *Dodecatheon*, they are all natives of Connecticut, and most of them of Hartford county.

Many of them have been taken from the woods or swamps by my own hands; and in general I have been highly pleased to observe, that the wildest among them grew much better in the civilized, than in the barbarous state where they were found. Many, indeed, have so improved in size and beauty that their old friends who knew them or their families, perfectly well in the woods, are at a loss to know who and what they are in their present condition.

I am among those, Mr. Editor, who prefer our own to foreign plants, of the same grade of beauty, though the former are neither puffed among dealers, nor esteemed by those who lead the fashion in the floral world. I prefer them because they are natives of our own soil, and will therefore grow with little trouble, and with no protection. Perhaps, also, there is a mixture

of national pride in the consideration that our woods, swamps and barrens afford as beautiful specimens of the gifts of Flora, as can be brought from any other country. I think, indeed, that we have many native plants, unknown to most of our lovers of flowers, which are on all accounts far preferable to those for which high prices are paid, because they come from distant lands. I know that some of my own have been honored with screams of delight from pretty lips; the owners of which were not only astonished, but mortified at their own ignorance, when they learned that such beauties came from our own woods, and that, too, within a few miles from the place where they now grow.

Perhaps my taste is either antiquated, perverted, or peculiar. It may be a mixture of all these. At any rate, I cannot see, for instance, why our *Lilium superbum*, with its 30 or 40 flowers, elevated 6 or 8 feet, is not a far more splendid flower than the famous Japan lily, with its low stature, and two or three flowers. And yet, although the latter has been in the country only a

few years, and sells at a high price, while the former has been growing among us ever since the creation, the one has been seen and bought by hundreds who perhaps never even heard the name of the other. Nor is this by any means a solitary case; for where shall we find, among hardy perennials or annuals, of any country, more beautiful plants than the *Asclepias tuberosa*, *Cypripedium spectabile*, the *Habenaria grandiflora*, or the *Lobelia cardinalis*; and yet, in how few gardens are any of these to be seen.

In foreign countries, these, and scores of other American flowers, of which cultivators in this country hardly know the names, are esteemed as among the choicest beauties of the garden.

I am aware that whatever is common and easily obtained, is generally esteemed of little beauty or value; and yet I have no doubt, that were the beauties of our fields more generally known and cultivated, they would rise in fashionable esteem, not only on their own account, but because they are the products of our own country; for certainly, we indulge feelings of natural pride on subjects far less worthy than the floral gifts of our woods and barrens.

In addition to the pleasure which every one feels in watching the growth and flowering of plants, which he has redeemed from the woods, there are several other considerations by which the value of such specimens is enhanced. One is, the amusement to be derived at the perplexity of certain persons, (who professed to have all the floral beauties in market,) at beholding, for the first time, such splendid flowers as the Fringed Orchis—(*Habenaria ciliata*,) or the Painted Moccasin flower—(*Cypripedium spectabile*;) and especially on being told that they came from our own swamps.

The list of which I spoke at first, of indigenous plants, from the woods, swamps

and barrens, which I have collected and value highly, is a follows:

<i>Acorus calamus</i> ,	<i>Lysamachia ciliata</i> ,
<i>Acer siriatum</i> ,	<i>Ludwegia alternifolia</i> ,
— <i>montanum</i> ,	<i>Lobelia cardinalis</i> ,
<i>Aristolochia siphio</i> ,	<i>Liatris scariosa</i> ,
<i>Apocynum cannabinum</i> ,	<i>Leptandra virginica</i> ,
<i>Aquilegia canadensis</i> ,	<i>Lagidium palmatum</i> ,
<i>Atropa rubra</i> ,	<i>Mimulus virginicus</i> ,
— <i>alba</i> ,	<i>Myrica cerifera</i> ,
<i>Asclepias tuberosa</i> ,	<i>Neottia pubescens</i> ,
— <i>phytolaccoides</i> ,	<i>Nymphaea odorata</i> ,
<i>Arbutus uva ursi</i> ,	<i>Osmunda vegalis</i> ,
<i>Aster spectabilis</i> ,	<i>Prinos verticillatus</i> ,
— <i>laevis</i> ,	<i>Pyrola rotundifolia</i> ,
<i>Asarum canadensis</i> ,	— <i>maculata</i> ,
<i>Copis trifolia</i> ,	<i>Prenanthes alba</i> ,
<i>Caltha palustris</i> ,	<i>Phodora canadensis</i> ,
<i>Cornus florida</i> ,	<i>Pyrus arbutifolia</i> ,
— <i>canadensis</i> ,	<i>Rhododendron viscosa</i> ,
<i>Clematis virginica</i> ,	— <i>nudifolia</i> ,
<i>Convallaria racemosa</i> ,	<i>Salix conifera</i> ,
<i>Clethra alnifolia</i> ,	<i>Staphylea trifolia</i> ,
<i>Ceanothus americana</i> ,	<i>Spiraea alba</i> ,
<i>Cypripedium acaule</i> ,	<i>Sarracenia purpurea</i> ,
— <i>flava</i> ,	<i>Sagittaria sagittifolia</i> ,
— <i>spectabilis</i> ,	<i>Solidago odora</i> ,
<i>Dirca palustris</i> ,	<i>Typha latifolia</i> ,
<i>Diascoria villosa</i> ,	<i>Thalictrum dioicum</i> ,
<i>Epilobium spicatum</i> ,	— <i>corynellum</i> ,
<i>Equisetum hyemale</i> ,	<i>Triosteum perfoliatum</i> ,
<i>Gentiana saponaria</i> ,	<i>Trillium grandiflorum</i> ,
<i>Gerardia flava</i> ,	<i>Tephrosia virginica</i> ,
— <i>pedicularis</i> ,	<i>Verbascum blattaria</i> ,
<i>Hamamelis virginica</i> ,	<i>Viola pedata</i> ,
<i>Habenaria grandiflora</i> ,	— <i>rotundifolia</i> ,
<i>Hepatica triloba</i> ,	<i>Viburnum acerifolium</i> ,
<i>Kalmia latifolia</i> ,	— <i>dentatum</i> ,
— <i>angustifolia</i> ,	<i>Vicia cracca</i> ,
<i>Lilium canadense</i> ,	<i>Dodecatheon media</i> ,
— <i>philadelphicum</i> ,	— <i>purpurea</i> ,
<i>Lysamachia quadrifolia</i> ,	— <i>white</i> .

Another gratification, especially to the botanist, is, that he can now see, from day to day, what changes take place in plants which he has only seen, perhaps, when in full flower in the woods. He can witness the changes in size and beauty which cultivation often produces. In this respect, he will sometimes notice curious and interesting facts, of which he must have remained ignorant, or which would not have occurred, had the plants not been taken from their native soil. Thus the *Equisetum hyemale*, after rising above the ground, increases, not in diameter, but only in height. The *Salix conifera*, when cultivated, no longer produces its characteristic cones, &c. Yours truly,

J. L. COMSTOCK.

Hartford, March 5, 1850.

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REMARKS.—There is a great deal of good sense as well as patriotism in Dr. Comstock's remarks. They contain another il-

justification of the truth—that we overlook what is within our reach, and take infinite pains to get that which is to be had with difficulty; that two of the finest evergreen shrubs in America, the common laurel—(*Kalmia latifolia*,) and the native holly—

(*Ilex opaca*,) are scarcely to be found for sale in a nursery, or growing in a shrubbery, in the United States, though in England they are planted by the acre, and plants of the *Kalmia* may be had for a few shillings a thousand. Ed.

CRITIQUE ON THE FEBRUARY HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

YOUR LEADER—*The Convention of Fruits.*—Very well. The fruits themselves having taken the subject in hand, I trust the desired reform of *anglicising* their foreign names will go forward. I know no better reason for retaining *proper* names and pronunciations to foreign *fruits* in foreign languages, than to foreign cattle or horses, or any other thing. It is an absurdity all round. We talk, or profess to talk, English in this country. Why then strive to draw foreign languages in so awkwardly, to bother our tongues and brains, when the “old well of English undefiled,” is at hand, sufficient for all our purposes? I hope that this important matter will be put right at the next annual pomological convention.

Preserving Fruits fresh for winter use.—A most excellent plan, and as easy in practice as to bottle cider. A little attention at the proper seasons to things of this sort, and what a multitude of household comforts do we draw about us, costing to those who grow the fruits little or nothing, and a source of profit to those who wish to make them so.

A Botanical Account of California.—I trust that California is destined to produce something *better* than gold. If not, it must be a wretched country. But until gold gets to be an old story, I suppose we shall hear little of anything else. For the last

twelve months, I have been inquiring what California produced in the way of vegetation, but can find no one who thought of, or saw anything but gold when there.

It is said that Col. FREMONT's glowing pictures of the luxury of vegetation there is all moonshine. If, however, California shall prove a good agricultural region, no occupation for the next twenty years will prove so surely profitable as that of cultivating the soil in grains, vegetables and fruits. More gold can thus be *dug* out of the soil than in the richest *placers* yet discovered.

Notes on Fruit Culture in Illinois.—A very interesting paper; and if the Catawbe grape, so graphically described by Professor TURNER, is a native of that country, it is substantial evidence that his chief difficulty in his other fruits is, that they are foreigners to that particular soil and locality. His narrative of the *root* grafted, *stock* grafted, and *stock budded* apples, is another strong evidence of such fact. I would suggest to Professor T. to try *native* Illinois stocks, grafted or budded high, i. e., at the point where he proposes to spread the top of his trees. The *main stock*, where the chief complaint now lies, will then be indigenous to the soil, and altogether likely to withstand the vicissitudes of climate and soil, which are so fatal to the exotics. At

all events, the difficulties complained of will be overcome after a while. The case is not desperate, by any means.

A few words about sickly Pear Trees.—The man who has a dozen pear trees can very well wisp them up with straw; but he who has five hundred or a thousand to do, will find it an expensive matter, besides coaxing the mice and other vermin into the bark and about the roots by its continual falling off; for I have known mice girdle trees as fast in summer and autumn, as in winter. As just mentioned, with regard to Professor TURNER, work the trees high up to the branching point, and let the stocks be the hardiest and thorniest seedlings. The top will thus shade itself, and be its own preserver. Who ever knew a natural hedge-grown pear to be sun-struck, or diseased by any *natural* cause?

I fancy that the chief cause of our troubles, in the finer kinds of the pear, is the practice of our nurserymen to work their buds into any kind of the same stock where they would grow, irrespective of its fitness, producing the same bad results that excessive "in-and-in breeding" among cattle has often done with our stock farmers. The Endicott and Stuyvesant, named by "Digger," as well as the original Tyson and Seckel trees, prove this; and the enormous French seedling pear trees on both sides of the Detroit river, quite two hundred years old, and some of them yet in vigorous bearing, would appear to settle the question.

In VAN MONS' account of his cultivation of the pear, to seek out his celebrated new varieties, it appears that he selected the seeds of the best pears for planting, and then selected the seeds of the best and most delicate fruits produced by *them*, and so on, in succession,—thus enfeebling and refining them in constitution, (for why not a tree have constitutional enfeeblement as

well as a calf or a sheep?) as he progressed, until the very last limit of vitality was attained, and which was in fact an inevitable necessity, to produce the exquisitely refined fruits that he did produce. Now, beyond all question, if he had at every successive planting of the seed used only the seeds of hedge-pears, or *wildings*, he never would have succeeded in producing a tenth or a fiftieth part of the *good* pears which he did; but it is quite probable his *stocks* would have been infinitely more hardy and enduring. And the fact that our best *native* American pears have been from *chance* seedlings, of vigorous growth, but in all probability of legitimate admixture from the pollen of good varieties, no way controverts this supposition; only we have as yet discovered, among all our chance wildings, but a very few *first rate* fruits. I shall be happy to hear the views of "Digger" on this subject.

Design for a Southern Country House.—

A very good one, and in excellent character for its locality. But, my good sir, should have the roof steeper—"a quarter pitch"—at least. Such a roof, of shingles, (and that is what they use at the south,) will last twenty to forty years, depending on the material, and look quite as well, while the flatter one—say one-sixth to one-fifth pitch—as you have it, will only last one-third to one-half the time. For a *southern* house, too, I would throw the chimneys into the outside walls; as the additional heat they would otherwise give to the rooms is of little consequence, and thus give more space to the interior, and look quite as well in the general effect. I hope that in your proposed work on "Country Houses," you will pay more attention to *southern* architecture; for in no part of the United States has so little study been given to rural embellishment of houses as there. And how

much of picturesque effect, too, would be added by an improved style of building on plantations, where the chief mansion is ornamented and "set off" by the numerous cottages of the laborers, which may be grouped into an infinite variety of expression! Dear me! If people would only consider how wonderfully a little good taste in arrangement would add to the value, in reality as well as in appearance, of their estates, by the location and style of their buildings, how much would their attachment to them be enhanced! Americans, instead of the most negligent, should be the most conspicuous in their rural architecture of any people in the world; because owning the fee, they build for themselves.

The Manetti Rose Stock.—If this be what Mr. RIVERS says of it, why is it not just the thing for lawn hedges in this country? The Privet, intermixed with the wild Michigan rose, is now the prettiest thing we have for a *northern* climate. But the Michigan will not grow from the *layer* as the Manetti does; nor does it incline to sucker profusely, although it is the most rampant of growers. The Manetti appears to be already introduced into the United States; and if as easily propagated as described, it will soon be abundant in our gardens. Let it be tried, by all means, and see what it amounts to.

The Critic Criticised.—Well, "I'm in for it," to a dead certainty. Mr. DAVIS is an architect; of course, an *exact* man—mathematically so. And he says that my "censure" of Mr. RORCH's villa is based on "superficial examination." Be it so. I'll tell him a story, which I saw the other day in a newspaper. A clergyman in Lowell was publicly accused of going with his *wife* to the "protracted meetings" in that famous city, and making light of the penitential acts of those who participated in the eve-

ning exercises. He thus answered the accusation, as publicly as he was charged:

"I have never accompanied my wife to any of the protracted meetings.

"My wife has never attended one of those meetings, nor made light of their proceedings.

"I never have attended one myself.

"I have no wife!"

Now for the application:

MR. DAVIS.

"The roof of the *main body of the building* is pronounced (by critic) too high, and would be made subordinate, and an 'inferior appendage!' The whole character of design, composition, and harmonious arrangement, lies in making *this* feature *dominant*, rather than subordinate." [The "Shakspeare" part I have no use for.—*Critic*.]

CRITIQUE.

"The roof of the *front porch* is also too high, running its point far above the pinnacle of the *house itself*,—thus making it (the porch) the superior, instead of the inferior appendage; the latter, its proper character."

I fancy it will be hard to find where my opinion differs from his own in *reality*, although he quotes me exactly the reverse, and may be quite as "superficial" in his readings as myself. Had Mr. D. drawn an end elevation to the house, and *shown* what he calls the gables, I should not have been betrayed into the supposition that they were "dormer" windows, which, notwithstanding they prove "gables," look more like "dormers," in the picture, than anything else. And as for the manifest superiority of "peaked" chambers over "flat" ceiled ones, it being a question of taste solely—which is often a very arbitrary matter—I shall not dispute him. The adage, "*de gustibus non disputandum*" must suffice.*

* JEFFREYS must allow us to show him that he entirely misunderstands Mr. DAVIS' design, which he criticises. What he calls the "front porch," is not merely a porch, but is a gable, carried up of the same width at the front and rear with a roof, running through from the top of the gable over front porch to the top of gable over back porch. As the ridge of this roof, extending from the front gable to the rear gable, is six feet higher than the ridge of the lower roof on each side of it (over what JEFFREYS calls the main building,) and as it measures

Mr. DAVIS says "the umbrage, (mis-called veranda,) is objected to from its not *returning* on the ends of the building."

Critique says, "the veranda should extend *no further than the walls* of the house, *unless* it return down the sides," &c.

Mr. D. also asks how the veranda,* I beg his pardon, umbrage,† for I *should* speak professionally, is shown to be a defect, in thus running past the front of the house without returning down its sides? Why simply, sir, because there is no apparent utility in it, and quite certainly no ornament; and when neither of these requisites are effected, the thing is worthless—a false pretense.

Mr. D. "There is no skylight." Then of course there is a deck on the roof, although I submit that in placing his "parapet" (he is right in that term) several feet below its elevation, and giving the sight-seers a chance to "slip," by a mis-step, several feet "down the steep sides" of the roof before the parapet catches them, it would have been better that it were on a level with the deck,—thus making it look

like a deck instead of looking, as I insist it does, *more* like a skylight.

But, I choose not to bandy words with Mr. DAVIS. He is a very clever and accomplished architect; and among his portfolios, which he has heretofore politely given to my observation, (although an entire stranger to me personally,) I have seen many very beautiful and tasteful designs, as well as some which appeared to be devised more for ornament than utility, or in accordance with *true* taste or proper keeping. Still, like most professional men, I suppose Mr. DAVIS designs for the many, and must please his customers. It should, however, be borne in mind that an architect can do much to mould the public taste to a correct standard; and in a country like ours, utility, convenience, and a fitness of things to time, place, and occupation, as well as circumstances; or perhaps, in better phrase, "good keeping," should be the great desideratum in all erections of this kind. When we come to "talk the thing down," and mutually understand each other, I fancy he and I would not widely differ.

JEFFREYS.

CHEAP SUBSTITUTE FOR GREEN-HOUSES.

BY S. B. GOOKINS, TERRE HAUTE, IA.

MR. DOWNING—I have a word or two to say to those who do not keep green-houses, and therefore deprive themselves of the pleasure of plants in winter. The number

about 67 feet in length, while the lower roof measures only 56 feet, it is very clear that Mr. DAVIS is correct in calling the roof that extends from the front to the back gable "the main roof;"‡ and it is no less true, that the composition has more character and spirit from keeping the roof on either side subordinate to this. Ed.

* "Veranda: An oriental word, denoting a kind of open portico, formed by extending a sloping roof beyond the main building." NOAH WEBSTER.

† "Umbrage: A shade; a screen of trees; shadow; haze; slight appearance; suspicion of injury; offence; resentment." *IBID.*

of those who enjoy the luxury of the green-house will ever be small. Commercial gardens must have them of course. To them, however, they are not luxuries, but, as the political economist would say, "articles of prime necessity," being kept for profit. Men of wealth can adorn and beautify their country seats, and gratify their tastes with the spectacle of vegetable life, during the bleak days of winter, by means of the green-house or conservatory, without stop-

ping to count the cost. But "we, the people," are neither commercial gardeners, nor men of wealth; yet we love the beautiful things which God has made; and there are pure tastes which would seek pleasure in this source of enjoyment, without the apparent means of gratification.

To such I would say, that any one who has sufficient mechanical genius to dig a hole, or build a pig-pen, may have plants in winter, and never realise the trouble or expense they occasion. I know this from having tried the experiment.

For several years previous to the present, I was living in town, where I had no place for a green-house, nor did I feel inclined to erect one there if this had not been the case. Selecting a place in the garden where the sun would shine for the longest time, in the short cold days of winter, I had a pit dug, six feet in depth, having the sides nearly perpendicular, sloping only enough to prevent their "caving in," except the north, which was left with a considerable slope, so as to present a fairer surface to the rays of the sun. Against this slope was erected a rough staging for pot plants. Around this hole was built a *pen* of rough planks, nailed to studs standing on the ground,—the studs being on the outside of the partition; and outside of this another of the same sort, with studs on the outside, leaving a space of about fifteen inches between,—the studs of the two partitions being connected by ties, to give strength to the wall. The space between may be filled with tan, or fresh stable manure. I have tried both, with equal success. The walls in front and rear may be two and a half or three feet high, and rising to a ridge which should be at least two-thirds of the distance from front to rear, giving a gentle inclination to the south, and a short steep pitch to the north.

The southern slope is to be covered with common green-house sash and glass. That is the only part of the structure requiring *mechanical* aid or expense. All the remainder can be done by a common laborer, properly directed. No door is required. Enter by raising a light of sash, and descend by a ladder or steps, which you may make in your own way.

In a cold stove of this description, I have kept for several winters Oleanders, Rhododendrons, all the tender Roses, Camellias, Cactus, *Calla etheopica*, Hydrangeas, *Abutilon striatum*, Oranges, Azaleas, wall flowers, Hyacinths, Pelargoniums, and divers others, in perfect safety, without any artificial heat whatever; and I have no doubt the list might be many times doubled. Some of the more tender plants are unsafe, though I have kept Fuchsias, *Ixias*, *Oxalis Bowii*, *Nerine undulata*, &c., but they do not do as well. There are several little flowering plants which are perfectly at home here. The *Polyanthus* grows all winter, and is sure to be showing its pretty smiling face the first sunny days of February.

There is, therefore, in the fact that we may not have green-houses, arranged upon scientific principles and erected at considerable expense, no reason why we shall deny ourselves the pleasure of having exotic plants in winter. When the weather is not too cold, they may be allowed to visit the parlor, where their lively green and blooming faces will give unequivocal evidence that they are perfectly contented with their winter quarters.

At this present writing, I have Camellias as fine as I ever saw, which have been kept without furnaces, flues, or water-pipes; and during the present winter the mercury has been twice below zero. Yours,

S. B. GOOKINS.

HOW TO MAKE DELICATE SEEDS GROW.

BY PROFESSOR LINDLEY.

"How am I to sow my flower-seeds?" "I have had some beautiful seeds given to me but I have no gardener, and I don't know what to do with them." "I don't know how it is, but my gardener never *can* get his seeds to grow. What *shall* I do?" "How deep, sir, *would* you advise me to bury my seeds?"

Such are the sounds of woe with which our ears are not uncommonly assailed. That information is much wanted in this matter is most certain; that endless mistakes follow in the train of all vague directions nobody can doubt; that seed-sowing does demand some "knack" and practice we readily admit, and therefore we shall on this occasion utter no *vox ambigua*, but cut the matter short by saying, "Don't bury your seeds at all!"

We can quite imagine the surprise that this announcement will occasion in some minds; but we presume to hope that when we have been heard to an end, the recommendation will not be thought so paradoxical as it appears to be.

Let us, in the first place, ask why seeds *are* buried alive under clods of earth? Does Nature thus inter them? And if so, who or what is her grave-digger? When the acorn falls it has no power of wriggling into a hole in the ground, and when the chickweed scatters its tiny seeds they lie and grow where they fall. What reasons, then, *can* gardeners have for making themselves seminal sextons?

"Reasons!" says the man of learning, "I will give you fifty; firstly, a seed must have darkness and oxide of hydrogen in order to germinate; under these influences its C combines with the O of the latter, and forms CO_2 which is extricated; then distaste comes into play, and the amylaceous particles are saccharified; thirdly"—but hold—enough of that. "Reasons!" says Mr. POLYANTHUS, the gardener, "why how are you to keep the birds off if you do not bury the seeds? or the mice? or such vermin. How are you to keep them moist

when they first chip the shell? How are they to hold to the soil when they have got a root? Reasons enough are these, I think."

Certainly. But, then, cannot all these objects be secured by other means than burial? Let us see.

We want fine dry soil. First provide that; get the ground level, and press it gently with a piece of tile or glass. If it contains stones or clods remove them. If your seeds are very small, sift over it a little silver sand, or peat; upon this scatter the seeds *thinly*. If they are excessively small mix them before sowing with dry sand or peat, in order to separate them; and again with gentleness press all flat.

Then provide some coarse Moss—any sort will do; but Bog-moss or Sphagnum is the best—having previously soaked it in boiling water to kill insects or their eggs. Press it till its wetness is exchanged for dampness, and then, while warm, scatter it *loosely* over the seeds. Press it down; invert over the Moss a common garden pot, lay a tile on the hole, and the operation is performed.

But the little apparatus thus contrived must be watched. In a day or two lift up the pot, raise the Moss, and examine the seeds. If the moss is dry, which is not likely to happen, again damp it with *warm* water. If all is still, have patience. Thus go on until you find your seeds *beginning* to grow. Then remove the tile from the hole in your pot, and leave them for another day. At the end of that time you will possibly find that the seeds have grown much more; if so take away a part of the Moss, so as to give the young things more air and light. The next day, raise the pot on one side, so as to open it to the south. This may be done with a stone placed beneath its front edge; but do not raise it all round, because if you do the strong current of air setting over your seedlings and through the hole in the pot will chill them. As soon as you find the seedlings green and

plump and stout, the Moss may be entirely removed and the pot raised higher. And very soon that, too, may be quite dispensed with, unless there are frosts at night, or bitter dry easterly winds by day. In the former case, replace the pot every night and take it off again in the morning; in the latter, it is wise to place a little screen between the plants and the wind. For this purpose a pantile is a capital thing, but a piece of board, or any such matter, will do.

In this way you secure all that you want in order to get a hardy seed to grow: darkness, moisture, air, warmth; and afterwards moisture, air, light and shelter.

Let no one say that large seeds cannot thus be raised. The finest Oaks spring from acorns dropped in the forest and covered by a few leaves. The Sycamore, the

Ash, the Beech, the Horse Chestnut will all sow themselves wherever their seeds can stick to the ground until a coverlet of leaves is moistened by an April shower and warmed by an April sun. Neither have such seeds any difficulty in steadying themselves by their roots; a long fang is driven by vital impulse into the earth, and it is to that, and not to a bit of the buried neck of the stem, that the seedling trusts for support and nourishment.

We will only add one word. Those who have ever attempted to sow seeds upon rockwork, know to their cost how very difficult it is to make such seeds take root. The method now proposed answers the end completely, and it is the only plan, which, in difficult cases, does succeed. *Experto crede Roberto.*

NOTES ON FRENCH NURSERIES.

BY JAS. W. HOOKER, ROCHESTER, N. Y.

ONE of the most striking contrasts which one observes on crossing from England to France, between the two countries, is the entirely different styles of planting out trees, shrubs and flowers, which are adopted by the men of these several countries. The English and the French gardener are operating upon two distinct and opposite ideas. The Frenchman endeavors to *make* things beautiful; the Englishman permits them to become so, by assisting nature to work out her own idea, confidently expecting that the infinite variety of beautiful forms which she assumes will exceed the puny productions of his own fancy as far as the Infinite Mind, from which these forms emanate, exceeds his own in resources. Need I say which has proved himself the most skilful workman, especially since the world is full of praises to English landscape gardeners?

This impression is confirmed at every step that is taken, by the ever-present Lombardy

poplar, not cultivated solely for "liberty trees,"—to which use however a large number have of late been put—but every farm where a tree of any sort is to be seen, must have its poplar, either planted along the boundaries, or set in squares, and grown for timber and fire-wood; its formal and upright head, although not uninteresting in due proportion with other trees, gives rather a stiff and monotonous appearance to the landscape, when it alone is to be seen.

The perfection of this formal style is seen at Versailles, in the palace gardens. There may be found avenues of Elms, Lindens, Beeches, Horse-chestnuts &c., clipped in the form of Gothic arches, and stretching as far as the eye can reach in one unbroken wall of green leaves, which constant clipping for many years has brought to such a mathematical accuracy as to afford no variety or intricacy—in short, no relief to the

eye—and exciting no desire to trace its course to a different point of view.

The gardens, also, furnish abundant proof of the same prevailing taste. Instead of the winding walk, the rustic arbor, and the graceful but perhaps unnoticed screen, we everywhere meet the regularly laid out flower-garden, with straight rows of Dahlias, Asters, Chrysanthemums &c. These walks, though well cultivated, and usually containing many fine plants, still lack the charm which all admit is found in English gardens.

It were strange, however, if a people like the French should not excel in some departments of horticulture; and, in at least one respect, I think they do excel. I mean in the cultivation of fruit trees; especially dwarf, or pyramidal-trained trees. Their methods have been so fully detailed in many pomological works, that it is unnecessary for me to repeat them, merely remarking that the very severe pruning which they practice, will, I believe, be found unnecessary for the production of fine specimens in this country, especially where judicious root-pruning is practiced. One evidence of their success in this department, is the abundance of fine pears which are met with in the markets of Paris.* These pears are nearly all produced on trees worked upon the Quince stock, which seems to be a general favorite; in fact, some nurserymen do not cultivate pears upon any other stock.

The universal practice of planting fruit-trees, which prevails in France, gives encouragement and support to a large number of nurserymen, whose principal business is the cultivation of the different species of fruit trees. Among those which I have vis-

ited, the following appear to me worthy of notice.

Messrs. Jamih and Durand, (near Paris.)

This firm had a fine stock of trees on hand, a large part of which were pears; but other fruits, roses, and some fine trees and shrubs, are cultivated to a considerable extent. They have adopted the commendable practice of planting a standard tree of each variety, which they cultivate for sale. This involves considerable trouble and expense; but is the only way to secure perfect accuracy of nomenclature, and protect their customers from worthless varieties, which are annually appearing in the already almost endless catalogues of some nurserymen. I was happy to find a disposition on the part of some nurserymen to dismiss these useless names from good company, as the public have come to understand pretty well what's in a name. Their fruit room was an excellent school for the amateur, and furnished substantial proof of the value of the varieties which they cultivate.

Mr. A. Leroy, Angers. This gentleman has a most extensive and well-cultivated establishment, situated in a part of the country where the mildness of the climate and the excellence of the soil renders the cultivation in the open air, of many beautiful and useful plants, practicable there, which can only be raised under glass, or in very sheltered situations, about Paris.

Here may be seen groves of splendid magnolias, as thrifty and full of blossoms as could be desired; Camellias in full flower, without the least protection; Figs abundant; and some rather tender evergreens, as the *Arucaria imbricata*, Funeral cypress, &c., exhibiting all their justly praised attractions. The superior advantages possessed by Mr. LEROY enable him to cultivate a very large variety of plants, without being compelled to resort to glass struc-

* The White Doyenne was the most abundant and highly esteemed of all the pears which were in season at the time I was in Paris. The uniformly large size and great beauty of the specimens was to me quite a comment on what are called "worn out varieties." The Duchess d'Angoulême stood next in order of consequence, and fully retained its high reputation. Other varieties were common, but none seemed to take the precedence of these.

tures, except to a very limited extent; and the vast stock which he has on hand enables him to supply orders to almost any extent. He has lately sent an agent to this country, and I presume will hereafter receive his full share of American patronage. His stock of pear trees seemed to be inexhaustible; and the extent of his grounds, (200 acres,) requires the employment of so many men, that very skilful supervision must be necessary to make the employment of so much capital profitable to the proprietor.

Mr. L. also cultivates great quantities of seedling forest trees, among which the universal poplar is very conspicuous.

Mr. Goutier, Fontenay Aux Roses. This establishment is principally devoted to the propagation of small plants, such as stocks for the use of nurseries, and seedling forest trees; but the cultivation of roses and other flowering shrubs, forms a considerable part

of his business. The proprietor is a man of considerable enterprise, and certainly shows superior skill in his profession.

These establishments may be taken as favorable specimens of their respective branches of business; and although conducted in a manner hardly practicable here, are each well worthy of a visit from any person who takes the least interest in the subject of horticulture. Their methods of cultivation differ from our own, mainly, in the much greater amount of manual labor which is expended; they use no horse power either in the preparation or after-culture of the soil, but the results of their efforts are remarkable. More vigorous and healthful trees and shrubs I have never seen, and the prices at which they are sold seem to show that manual labor, where it can be had at low prices, is cheaper than the employment of animals. Yours, J. W. H.

ON THE GLADIOLUS OR CORN-FLAG.

BY AN AMATEUR, NEW-YORK.

I AM not a little surprised that this beautiful genus of bulbous plants is not more universally known and cultivated in the flower garden. Its varieties produce their long spikes of beautiful flowers, of various shades, from pure white to rich purple, for a long time during the hottest of our mid-summer weather, when there are few things so gay and beautiful in the flower garden. They have the merit, too, of delighting in our mid-summer sun, which injures the colours of so many plants.

The common *Gladiolus* or corn-flag, (*G. communis*.) with purple flowers, is pretty well known in our gardens; as being perfectly hardy, it may be left to take care of

itself among other tenants of the open borders. Many gladioli are from the Cape of Good Hope, and though beautiful, are too delicate, except for the green-house. But there are also many from Turkey, Russia, and the north of Europe, as well as hybrid varieties, raised in European gardens, which may be grown in perfection in the open air, if the beds in which they are planted are sufficiently covered in winter to protect them against severe frost. In some parts of the middle states—as at Philadelphia and Baltimore—three or four inches of tan-bark, laid over the beds in the autumn, will effect this; and in the more northern districts, covering the beds at the approach of

severe frost with litter or straw, to the depth of 20 inches, will protect them fully,—a very little trouble for the sake of having a superb bed of gladioli.

Many persons take up the bulbs in autumn, and give them the same treatment as the Dahlia, planting them out again in April.

If we suppose the more hardy sorts of gladioli to be planted to remain permanently in the open borders, their culture is very simple. All they require, is a soil about a foot deep, composed of rotten dung, chopped sods, and sand, in equal parts. If the subsoil below is not sandy or gravelly, so as to let the water run off freely, there should be four inches of broken bricks or small stones put at the bottom of the bed; and if the subsoil is quite retentive, a small drain should be connected with this underlayer of stones,—the object being to attain perfect security against stagnant water in winter.

In a bed so prepared, the bulbs may be planted any time from the 10th of April till the 10th of May. The top of the bulb should be planted about four inches below the surface, and three or four bulbs should be placed within four or five inches of each other—so as to make a cluster or patch,—leaving an interval of eighteen inches each way between the patches.

Most of the gladioli for the open border grow about two feet high; some, as *G. gandivensis*, three feet high. The best effect is produced, therefore, by covering the surface of the bed with Mignonette, Sweet Alyssum, Portulaccas, or any other trailing annual plants, that serve the double purpose of concealing the soil and adding to the beauty of the whole border.

Two of the most showy and easily cultivated sorts, are the many flowered Gladiolus or corn-flag, (*G. floribundus*), and the “Glory of Ghent” Gladiolus, (*G. gandivensis*.) They both grow with luxuriance, and produce a great profusion of superb flesh-coloured and bright orange scarlet flowers. *G. pittacina*, (parrot striped corn-flag,) is also common in many gardens; but its colours are dull, compared with the two first named. The foregoing three sorts may be had of THORBURN, BUIST, or any of the principal seedsmen. With the hope of drawing attention to other fine varieties of this beautiful plant, I give the following descriptions of sorts that may be cultivated in the open border, as I have directed.

GLADIOLUS FLORIBUNDUS—(the many flowered corn-flag.)—Native of the south of Af-



Fig. 106.—*Gladiolus floribundus*.

rica. The leaves are long, broad, sword-shaped; the flowers very large, spreading; the usual tint is a delicate flesh-colour, with a bright red strip on each petal. The

flower stems are profusely studded with blossoms, which open in succession. Blooms the last of June. Two feet high.



Fig. 107.—*Gladiolus gandivensis*.

GLADIOLUS GANDIVENSIS—(the Ghent corn-flag.)—A very showy hybrid, raised in Ghent, Belgium. The flowers are very large, and in colour a fine rich orange-scarlet, relieved with yellow. The leaves are usually broad and strong. Blooms from July to September. Three feet high.

GLADIOLUS PSITTACINUS—(the parrot-like corn-flag.)—Native of the Natal river. Leaves large, dark green; flowers large; petals incurved; orange yellow and green; mottled. August. Three feet high.

GLADIOLUS FORMOSSISSIMA—(the superb corn-flag.)—A superb hybrid variety, from Belgium. Habit like *G. gandivensis*, but the flowers much finer; the colour a rich orange crimson. Still rare.

GLADIOLUS BLANDUS—(the fairest corn-flag.)—Native of the Cape of Good Hope.

Flowers large, flesh-coloured, with pale red spots on the lower petals. Flowers in July. Two feet high. There is a variety with pure white flowers, another with purple, and another with light pink flowers; all beautiful.

GLADIOLUS RAMOSUS—(the branching corn-flag.)—Leaves broad; flowers large and spreading, light rosy pink, borne on a branching stem. Mid-summer. Three to four feet.

GLADIOLUS HERBERTII—(Herbert's corn-flag.)—An English hybrid. Flowers rosy crimson, with deep-coloured feather. Blooms in July. Grows one foot and a half high.

GLADIOLUS INSIGNIS—(remarkable corn-flag.)—A hybrid sort. Leaves rather narrow and long; flowers large, crimson, with a dash of bluish purple on the segments. They are borne chiefly on the upper side of a bending stem, as in *G. cardinalis*. July to September. Three feet high.

GLADIOLUS BYZANTINUS—(the Turkish corn-flag.)—Native of Turkey. Flowers a good deal like the common purple corn-flag, (*G. communis*), but larger; colour rich purple, with pale feather. There is a variety of this (*G. b. albus*), with white flowers, marked with dark purple.

The Belgians are great admirers of the Gladioli, and cultivate at least 50 beautiful varieties. M. VAN HOUTTE's garden, at Ghent, has a particularly rich collection.

As seeds ripen abundantly in this climate, and soon produce blooming plants, I hope our amateurs will undertake to raise *hybrids*. No doubt varieties may be raised in this way as hardy as the common purple one, which I have known to stand 20 degrees below zero (Fahrenheit,) without injury. Yours, AN AMATEUR.

THE CULTURE OF THE TULIP.

BY JAMES DOUGALL, AMHERSTBURGH, CANADA.

IN this country, where there is but little of the "retired leisure that in trained gardens takes its pleasure," which abounds in older countries, comparatively little attention has hitherto been paid to florists' flowers; and especially is this true with reference to what has often been considered the most beautiful of all flowers, namely, the Tulip.

The claims of this flower to consideration are, its tall graceful shape, its large symmetrical flower, the pearly or golden purity of the ground, together with the unrivalled variety and beauty of the coloured streaks that mark the petals, which are probably without comparison in the floral kingdom. Such characteristics would warrant the cultivation of the Tulip by all admirers of fine flowers, even though that cultivation were difficult and uncertain; but when it is added, that few flowers are more hardy, or grow with less care, it is easier to account for the enthusiasm respecting it, that has long prevailed in Europe, than for the apathy of the florists of this new continent.

The characteristics of a fine Tulip are, 1st, a strong upright stem; 2d, a large flower, with the petals so arranged as to form a perfect cup, neither too short nor too long; 3d, a fine white or yellow ground colour,—and if the latter, any shade from cream colour to the deepest gold; 4th, streaks, stripes, or edges of rich colours around, or through the petals, and as nearly uniform on the three outside and three inside petals as possible,—there being a slight difference in the marking of the two sets.

The most common faults of Tulips, the

opposites of the foregoing, a weak, bending stem, pointed or loose and straggling petals, a cup too short or too long for symmetry, colours running into each other or clouding the purity of the stripes, running down to the bottom of the petals, or, worst of all, a dark coloured bottom to the cup, or, what is equally bad, a yellow bottom if the ground be white.

Double and parrot Tulips are only kept for curiosity, and as border flowers; and early and sweet scented Tulips are in the



Fig. 408.—A Perfect Tulip.

same predicament. None of them are ever considered as belonging to fine collections. The same may be said of selfs; that is, those which are all one colour, and marled Tulips.

The culture of Tulips is very simple, as they will grow in almost any soil and with almost any treatment; but in order to bring them to perfection, they should have a deep, moderately rich soil, not recently manured, or, if so, with very old manure; as fresh

manure injures the shape and colour of the flowers. All stones, of any size, should be removed, to prevent distortion of the stems, or, what will be the same thing, the earth that immediately covers the roots, may be sifted through a coarse sieve or screen. The beds in which Tulips are planted should not be more than three or four feet wide, and the bulbs should be placed about six inches apart, in rows, which, in order that the earth may be freely stirred, should be about eight inches asunder.

Some florists prefer them as wide as eight or nine inches apart each way, and, certainly, when there is plenty of ground, this ample space will conduce to the strength of the roots and flowers. Blooming roots should be covered to the depth of about five inches from the base of the bulb, and smaller roots less. In spring, the earth should be occasionally stirred, to promote the growth of the flowers, and destroy weeds, taking care not to injure the roots, stems or leaves. When the bed comes into bloom, it will, if the collection be good, most amply repay this care, were it ten times as great, by the extraordinary variety and beauty of the flowers, which, instead of falling in a day or two, as is the case with many fine flowers, will last in perfection for a week or, with care, more than a fortnight.

Tulip amateurs—in order to bring the flowers to the greatest size and purity of colour, (both of which objects are, to some extent, hindered by the unshaded rays of the sun,) and, at the same time, to shield them from storms of wind, rain, &c., which might prove very injurious—cover the show-beds with any kind of sheeting, fastened to a wooden frame. This frame, which slopes either to one or both sides, is of the simplest construction,—sometimes just high enough to cover the flowers, and

sometimes sufficiently high and wide for a party of visitors to walk underneath. A bed thus covered will last in perfection for about three weeks; and those who have not seen a bed so treated, can form no idea of the gorgeousness of the display. It is to be observed, however, that this shading from the sun and rain of heaven, materially weakens the roots, and should not be resorted to except when the party has a duplicate bed left uncovered, more especially as there will be a most beautiful show for a week or ten days without it.

Immediately after flowering, care should be taken to break off the seed pods, unless seed be wanted, in which case, one or two of the best may be left; but this materially weakens the roots. And as soon as the flowering stems have withered two or three inches down, the roots should be lifted and placed in some shaded and airy place to harden, or, what will do better, they may be laid down in rows just as taken up, and covered with a little dry earth,—care being taken in all cases, where the sorts are named, to keep the tallies between the different varieties.

After the bulbs are thus dried and hardened, they should be freed from stems, fibres, and loose skins, and put up according to their kinds in paper bags, which may be hung up or placed on a shelf in any dry, cool room, till time for planting, which may be done, as before described, any time before winter sets in. If the time of lifting is delayed till the stem is wholly withered, they may be thoroughly cleaned and put past in the paper bags, as they are taken out of the ground, provided they are lifted in dry weather; but it is much preferable to lift them earlier, as above directed, as they will bloom both stronger and finer than if lifted late. It is, however, to be remarked, that Tulips will do very well, to

be left in the same ground for two years, without moving them at all.

With regard to raising Tulips from seed, the process is so tedious and unsatisfactory,—taking six or seven years to obtain flowers, which, after all, are probably worthless,—that few, except the great professional florists of the old world, attempt it; and we believe that it is not once in several years that they unitedly succeed in bringing forward any real acquisition. When they do, however, the prices they demand for some time are enormous, say from one hundred to five hundred guineas a root. Indeed, some kinds which have been cultivated for twenty-five years, still command five or six guineas a root. Some kinds of Tulips increase more or less freely by off-

sets, whilst a few may be cultivated for years without any increase whatever. These latter kinds, if fine, must always be high priced; and it is, perhaps, the report of the enormous sums paid for some of them, that deters those who are not acquainted with Tulips, from commencing the cultivation of this beautiful flower altogether. The greater part of all the finest flowers, however, may be obtained now in this country, at very moderate rates; and, therefore, the time may come when every horticultural society here will have one of its annual shows, and that perhaps one of the finest of the whole, devoted exclusively to Tulips, as is the case with many similar associations in Britain.

JAMES DOUGALL.

Rosebank, near Amherstburgh, Feb. 15, 1850.

POMOLOGICAL NOTES, FROM THE WEST.

BY F. K. PHENIX, DELAVAN, WIS.

A. J. DOWNING, Esq:—Having lately made a visit to some of the principal nurseries and orchards of central Illinois, and had the pleasure of testing many sorts of apples, I thought it might not be unacceptable to your readers to give the results of my observations should they be thought worthy a place in the *Horticulturist*.

I would remark, in the outset, that of all the apple-growing sections I have ever visited—and they are not few in number—central Illinois promises to hold the highest rank. No where else have I ever seen so much vigor, hardihood and productiveness combined in the tree, and size, beauty and flavor in the fruit. This locality would, then, seem most admirably adapted to bring out the feebler-growing, delicate varieties, in their highest perfection, while at the

same time, those of a coarser, grosser character would incline to utter worthlessness; which is, in fact, precisely the case, though not to the extent with the latter class that might be expected, or that it is with the former.

I should fail in one important particular of doing my duty as “a sketcher,” did I neglect to speak of the craft in that section, embracing, as it does, a body of the most skilful practical men, and the most thorough amateurs, with hearts as large as their own expansive prairies, and as warm as the glow of their rich Illinois coal fires.

In such hands there need be no fears of the future horticultural character of that section; though a portion of the inhabitants are not exactly of the right stamp, being partly “natives,” with some foreigners,

who will however eventually yield to the mighty tide of progress.

But to my notes. I will begin with the *Belmot apple*, which I found in perfection with Mr. TRUESDELL, of Elgin, who has fruited it for several years, and esteems it in all respects one of the most desirable of early winter fruits.

Esopus Spitzenburg.—This I found in several collections, and in size and flavor fully equal to any eastern specimens I have ever seen. It proves thus far but a moderate bearer.

Monstrous Pippin, or *Gloria Mundi*. Utterly rejected on account of its unproductiveness and coarseness.

Dutch Codlin.—Rejected. Large and fair, but coarse.

Pennock.—Also rejected, but still quite popular in market, for its great size and beauty; is increasingly subject to the bitter-rot, though tolerably fair the past season.

Michael Henry Pippin.—A medium size, fair flavored fruit, nearly sweet; agreeable but not first rate. Those liking a high flavor would call it tame. A great bearer alternate years.

Westfield Seek-no-farther.—Esteemed every way, but does not keep as well at the east. Season, say from November to January.

Domini.—One of the most esteemed wherever tried, whether as a nursery or orchard tree. A wonderful grower and bearer, and large, showy, fair-flavored fruit. Externally it is sometimes specked, as with the bitter rot, but seems not to be injured by it.

Rarele's Janet.—Much esteemed as a long keeper, but not by all as of the finest flavor. Tree inclines to overbear when a part of the fruit is small. There seems to be two sub-varieties of the fruit growing on

trees of the same habit and character. The one is rounder, less flattened, and ripens much earlier than the other, and will doubtless be best for the north, as it is thought by many the long-keeping variety will not ripen well in high latitudes.

Milam, or *Hurigan*, or *Winter Pearmain* of the south. *The universal "Sucker apple,"* as it might with propriety be termed. Not known in the books, that I am aware of, but very extensively cultivated at the south. Medium, short ovate, not ridged; colour sometimes a fine dark crimson on one side, paler, with faint stripes, on the other; and sometimes pale red on one side and yellow on the other, with many rough russet specks and patches on its surface. Texture very agreeable, flavor mild and pleasant. Nov. to March. On the whole, excellent, though not of the highest flavor. Tree very thrifty and productive. Shoots upright, downy, and rather light colored. A notorious *sprouter* from the root; from which sprouts thousands of the trees, have been propagated.

Jersey Black—perhaps *Black Apple* of Cox. Considerably cultivated and tolerably well liked at the south. Tree productive, but a very feeble grower.

Baldwin.—But little known as yet. Far as tried, very large and fair, with indications however of the bitter-rot.

Newtown Pippin.—Yellow or green or green and yellow. Plenty of the trees and fruit, but in a state of most glorious mixture and confusion! Seems by common consent to enjoy the title of "*King of apples*," though cultivators do not like the tree by any means. A good bearer, but a part of the fruit sometimes under-sized.

English Russet.—Winter Russet of many nurseries. Productive, and a long-keeper.

Golden Russet.—Probably *English Golden Russet* of Thomas, otherwise not known

in the books, that I am aware of. A singular fact, for no tree is more generally cultivated in the nurseries, so far as I am acquainted, than this. Much esteemed so far as tried. A rich, agreeable fruit, and keeps well, though not as well as the preceding. The tree, for hardihood, vigor—and I think I may add certainty of bearing—has no superior. For this section and the far north, as a tree, it has scarcely an equal, while the fruit certainly promises well.

Red Romanite.—Doubtless, Carthouse, or Gilpin, of the books. Extensively cultivated, and generally esteemed as a valuable long-keeping sort, though small and not of the highest flavor.

Limber-twigg.—A very valuable long-keeper, and the tree the very type of hardihood and productiveness, bearing immensely every year. The fruit is small, but keeps till June or July; and though not of the highest flavor, is considered perfectly indispensable in good collections, and especially market orchards. It has by some been stated that there are two kinds of Limber-twigs, and I have tasted two very distinct sorts of apples under this name. If both have an equal claim to that name, they might very properly be distinguished as the large and small Limber-twigg, by which I shall designate them until better advised. The trees, so far as I have been able to learn, possess a considerable similarity of habit—though I have seen but little of the Large Limber-twigg trees. The Large is double the size of the other kind, not nearly so high coloured; ripens much earlier, and probably of a more simple flavor. Trees of the Large seemed to grow very slowly in the nursery, and the ends of the shoots were milewed.

Vandervere Pippin.—"Windower," of the Dutch, and amongst them the apple for winter. Fair, large, showy, but rather

coarse and sharp; excellent for cooking. Tree very thrifty and productive. Growth stout and sprawling. A profitable market variety. (Not the true Vandervere. Ed.)

Pryor Red.—By odds, the noblest and richest of russets. From medium to very large. Of an exceedingly rich russet flavor, which, were not the flesh rather dry, could hardly be equalled. Rather a shy bearer. Very widely cultivated and esteemed at the south. Season, November to April.

White Winter Pearmain.—Not known in the books, nor at the east, that I am aware of. Promises to become a great favorite, as it keeps well, and is of the very finest flavor, while the tree is unexceptionable. The fruit may, however, incline to be spotted and under-sized, in unfavorable localities. Medium, roundish; stem in a moderately deep russeted cavity; pale, greenish yellow, with faint flush. Flesh yellowish; of an agreeable texture, and rich, mild flavor; seeds long. December to April. Tree, in nursery, stout, upright grower; shoots various, very dark.

Grindstone.—A hard headed, long-keeper, but of a better flavor than I expected to find it, though far from first rate. Tree a wonderfully rapid, sprawling grower, and unproductive whilst young; is said to bear well afterwards. Probably a profitable market variety.

Wine Apple, of Illinois and Indiana. Very different from the Wine or Hay's Winter of the east. May very likely be Fall Wine of Ohio, and Cole's Wine, (No. 46.) Seems to be rather the favorite September and October apple of the south. Smallish, flattened; often, or generally one-sided; stem in a broad deep cavity. Eye in a broad, rather deep, plaited basin. A beautiful brilliant crimson blush, and pale yellow, faintly striped; the red often finely blotch-

ed. Flesh yellowish, with a rich flavor, inclining to sweet. Tree productive, but a slender, feeble grower.

Wine Sap.—A very handsome, fair-flavored valuable apple. Tree spreading, and inclines to over-bear. The fruit is thin, small. Esteemed.

Yellow Bellflower.—One of the noblest and best, every way. Could I have but one tree and fruit of that season, I think that would be my selection, at least for central Illinois. Nor do I fear it in southern Wisconsin, as the tree seems perfectly at home here. Where I visited, this is more esteemed than the

White Bellflower, or *Green Bellflower* of many western cultivators. A choice fruit, of unusually fine texture and flavor; not so large as the other. Tree productive, but more delicate, and probably less valuable every way for the north.

Rhode Island Greening.—Proves a fine-flavored, early winter apple; thus far a shy bearer. Promises better in southern Wisconsin.

Vandervere.—Newtown Spitzenburgh of the west. Well esteemed. (This is the true Vandervere, sent to us several times from the west as the Newtown Spitzenburgh. ED.)

Roman Stem.—This I saw at but one place, where it was pretty well liked. Not large, but of a peculiar and very agreeable flavor.

Rambo.—A great favorite.

Fall Pippin.—Esteemed the first of all "big apples." Rather shy in bearing.

Fameuse.—An excellent bearer, and very handsome, choice fruit.

Yellow Ingestrie.—A very productive tree, but disliked at the south for its small size. Better esteemed this way, as far as tried.

Roxbury Russet.—Good, but thus far a shy bearer.

Early Harvest.—Esteemed, but not very productive.

Sweet Bough.—Thus far very unproductive.

Summer Pearmain.—Moderate bearer, but decidedly the finest of its season, which is the latter part of August. Slow grower.

Sweet June.—Not known in the books. I am not able to give a particular description of this fruit. It is said to be medium or large; pale yellow, and of tolerable flavor. Season July. Tree very productive.

Carolina Red June.—Esteemed the most valuable summer apple for the west, by those acquainted with it. Also an entire stranger at the east. Though not so early as some, yet the many good qualities of tree and fruit, combine to place it in the first rank. Tree very productive; in the nursery a slow grower.

There are many other promising fruits introduced, from which a pretty decisive report may be expected next season, should it prove a good fruit season. Among these I would mention Huser's June, Trenton Early, Hockhocking, (supposed) Early Pennock, Harvest Red Streak, Red Sweet Pippin, &c., &c. There are many seedlings, also, being brought forward, of which I will at present name but two, the Fulton Strawberry and Fulton; the latter only of which I have tasted. It is certainly a promising fruit.

Hoping that a kind Providence will allow western fruits to "speak for themselves" at our National Convention next fall, and that it may be in all respects worthy of our cause and country, I remain, very respectfully, yours, &c. F. K. PHOENIX.

Delavan Nursery, Wisconsin, Feb. 1850.

HOW TO TREAT PEACH TREES.

BY AN OLD DIGGER.

Now is the time to "shorten-in" your peach, apricot, and nectarine trees, both for the sake of the fruit they will bear this season and the health and good condition of the trees. I suppose everybody understands the difference between shortening-in and common pruning. If not, I must make a long story short by saying, that shortening-in is nothing more than cutting off the *ends* of the last year's shoots.

Suppose, for instance, the case of a young peach tree just coming into bearing. The growth of last year consists of shoots, all over the outside of the head, or top of the tree, each shoot from ten to twenty inches long. Well, in the case of such a tree, I should shorten-in every shoot one-half, that is, I would cut off five inches of the end if the shoot is ten inches long, or ten inches if it is twice that length. If the tree has made but a moderate growth, then I would take off only a third; or the same if there is but a scanty store of blossom buds. But if the tree is strong and healthy, and shows an abundance of blossom-buds, then half the length of the last year's shoot is not too much.* The fruit will be larger, you will have as many bushels, and the flavor will be much richer; and what is of great consequence, the constitution of the tree will not be impaired by overbearing.

In the case of large, or old peach trees—especially if they have been neglected, or badly pruned—something must be done that will bring them within bounds again and restore them to good condition. This, as I have satisfied myself, may be done by

"heading-in," which is nothing else than cutting back the ends of the principal limbs—say from two to four feet—in order to make the tree throw out a new head of young, healthy bearing wood. Of course, this proceeding loses you the crop of fruit for this year; so, that if that is important, you must take *one side* of the tree this year, leaving the other side to bear, and next year head-in the other side. In this way I have restored old apricot and peach trees that were "given up by the doctors" as superannuated and worn out in service, to a pretty respectable condition of youth again; good at least for half-a-dozen years more.

It is the fashion now-a-days, when the chemists and doctors wish to know what is to be done to help a plant or tree, to *examine its ashes*. It is, in truth, not a bad plan, and is evidently founded on the old doctrine that the new grows out of the old; "ashes to ashes and dust to dust." Exactly what the elements of the peach tree ash are I don't know, for I have not been able to find any analysis; but I conclude they are pretty largely *lime* and *potash*, for I have found by repeated trials that *wood-ashes* is the very substance, (along with sufficient manure in the soil, mind,) to maintain a healthy, substantial and productive habit in a peach tree.

Don't be so foolish, (as many persons are, when they are going to give an extraordinary relish of new fangled manure to a plant,) don't be so foolish as to content yourself with sprinkling four or five handfuls of ashes around a peach tree and expect its leaves to turn colour with a lease of new life. Take half-a-peck of *leached* ashes to

* I mean, of all the strongest shoots. The weak ones may be left two-thirds their whole length.

a young tree, or half-a-bushel to a full grown tree—in that proportion at least; put not a dust of it around the trunk, (that is, so far as benefitting the roots go,) but make a calculation with your eye of how far the roots of the tree spread; it may be two feet, it may be six feet every way from the trunk. Then, having satisfied yourself about where the greater part of the *young fibres* are, spread the ashes on the surface of the ground, over them, and turn it under about three inches with the three-pronged spud, or a light spade. If such treatment as this don't give you healthy trees, then your stock is radically diseased, and only worth a place on the wood-pile.

That little enemy, the peach-worm, will very likely have established himself in your trees; he is already there to a dead certainty if you are not wide awake to his sapping and mining habits. If, therefore, you have not been over your trees last fall, and got the upper hand of him for the next six months, altogether the best way of doing business with this gentleman is to Lynch him on the spot, by ferreting him out of his hole, in the neck of the tree, just below the surface of the ground. You can do this good turn for a peach tree in five minutes, by lifting the soil around it two or three inches deep, laying bare the stem just between wind and water, as the old sailors say. If all looks clean and smooth there, very well; replace the soil again. If, on the other hand, you see *gum*, then look out for the enemy. Scratch a moment with your knife where the gum oozes out, and you will get on his trail; cut into the bark till you find him—in the shape of a white grub, three-quarters of an inch long—and when found, “make no note of it,” but settle his accounts as rapidly as you can.

This grub comes from an egg laid in the bark, in summer, by the winged insect.

Unless the creature is wonderfully abundant, it contents itself with looking about for the tender bark at the surface of the ground. On this account it is a good plan to outwit the rascal by heaping up a little cone or pile of wood ashes, tan or sand, say six inches high, around the trunk. The sole object of this is to guard the soft place in the bark at the neck of the tree. On this account you must clear away the pile every fall, so as to let the bark harden again. If you do not, but keep it there winter and summer, you will find that it does no more good than blowing against the wind—for the very plain reason that the bark becomes tender at the top of the pile, instead of the surface of the ground, as before.

Some years ago a good deal was said in favor of pouring boiling water about the neck * of peach trees. It was said to kill the worms and do no harm to the tree. I am an advocate for this practice. I do not consider it, by any means, so thorough a means of ridding the tree of worms as “war to the knife” is, but still, it will in most cases, do the job for them most effectually; and many a tree that stands near the kitchen door, may be protected in this way by she who holds the kettle for a weapon, as well as by the “regular army” of practical gardeners.

Besides this, I have satisfied myself, by experiment, (though I am sorry I have not yet had time to get up the *theory*,) that a good dose of hot water is a means of bringing-to many a peach tree just about giving up the ghost. It seems to rouse the vital powers; and if there is life enough left, a good scalding at the neck seems to produce a reaction that is at times quite wonderful.

Three years ago I had two trees, a peach

* I mean by the neck the bottom of the trunk, just at the surface of the ground, where the roots start out.

and a favorite apricot, that had been failing for a couple of seasons—often thought before that very serviceable trees. They had been rather badly treated by the worm, to be sure, but that had been attended to in time, and the roots appeared to be in very fair condition. Still, the trees dwindled, looked sickly, and bore little or no fruit. As a desperate remedy, I resolved on a trial of hot water. I removed the soil directly round the neck of the tree, making a basin three inches deep and twenty inches

across. Into this I poured twelve gallons of boiling water.

To my great satisfaction the trees, instead of dying, immediately pushed out vigorous shoots, took a healthy appearance, and made a fine growth of wood, and have since borne two crops of delicious fruit. I experimented last year, again, with equal success, and now am ready, like old Doctor SANGRADO, to prescribe *hot water* in all desperate cases. Yours.

AN OLD DIGGER.

REVIEW.

PROCEEDINGS OF THE N. A. POMOLOGICAL CONVENTION, held at Syracuse, September 14, 1849. Pamphlet—64 pages.

REPORT OF THE OHIO NURSERYMEN AND FRUIT-GROWERS' CONVENTION, held at Columbus, Dec. 1849.

"I MADE me gardens and orchards, and planted trees in them of all kinds of fruit," said the wise man of the old world, thousands of years ago; and this, we see, is precisely what the people of this young country are busying themselves about at the present moment. Now and then they, too, are led, not by world-weariness, but by the "curculio" and the "blight," to exclaim—all is "vexation of spirit;" but in the main, they are better contented with their orchards and gardens than SOLOMON was with his, mainly because they are seeking after the *utility* rather than the mere personal pleasure of the thing.

Here are two goodly pamphlets, which are practical demonstrations that our people are wide awake; not that they do content themselves with crab apples, but will fill their orchards with none but the best. Oddly enough, as the novice would think, the great difficulty with them, is to find out what the "best fruits" are. Had the Uni-

ted States covered no more territory than England, we should have arrived at the solution of the question long ago; for it is no problem to a horticulturist at Boston, New-York, or Philadelphia; but in a country that embraces the two zones, with the thermometer in Maine and Iowa falling to 20 degrees below zero, while people in New-Orleans are feasting on green peas and strawberries, it is plain that experiment after experiment must be made in each district, or portion of the country, till the needful answers are obtained from all our various soils and climates.

The Report of the convention at Syracuse embraces a series of facts, especially adapted to, and especially valuable to the extreme northern and western portions of the Union; especially that belt including northern and western New-York, and all the district of western country bordering on the great lakes and the upper Mississippi.

The principal business of the convention was the discussion of fruits; and the pomologist and fruit-grower will find a good deal of interesting individual opinion, regarding the different varieties contained in

this report. It appears to us, however, that the vagueness of the old classification adopted ("first rate, second rate," &c.,) has led to apparent difference of opinion regarding many sorts, when a more definite standard of comparison would have settled the matter more definitely and speedily. The comparative terms for all fruits worthy of consideration by the New-York convention is much better, viz.—"good, very good, best;" and we think will come into general use.

The fruits which were agreed upon as "first rate," at Syracuse, are the following: *

PLUMS.	PEARS.
Smith's Orleans,	Fondante d'Automne,
Lawrence Favorite.	Gansel's Bergamot,
APPLES.	Dix,
Roxbury Russet.	Beurré Bosc.

The Duchess d'Angouleme pear gave rise to a great deal of discussion, and finally was pronounced first rate on quince, second rate on pear stocks. Passe Colmar was considered second rate, though Mr. HOVEY, of Boston, defended it stoutly as the "king of pears, with good cultivation." Fulton, St. Ghislain, Buffum and Beurré Diel, were placed in a sort of purgatory, between first and second rate. Easter Beurré, Long Green, Julienne, Napoleon, Frederick of Wurtemburgh, and Bleecker's Meadow, were considered second rate, pretty unanimously.

The following description of a new pear, from Prof. KIRTLAND of Cleveland, Ohio, a source we have much respect for, we copy from the report. A pear that has the Seckel for its mother, with a flavor "esteemed superior to its parent by many people," is worthy of a trial, to say the least.

KIRTLAND PEAR.

Synonyms—Seedling Seckel, Kirtland's Seedling.

"Size medium; the circumference six and a half inches; length, including stem, two and a half inches; form globular-ovate; exterior colour

* In addition to the standard sorts selected last year.

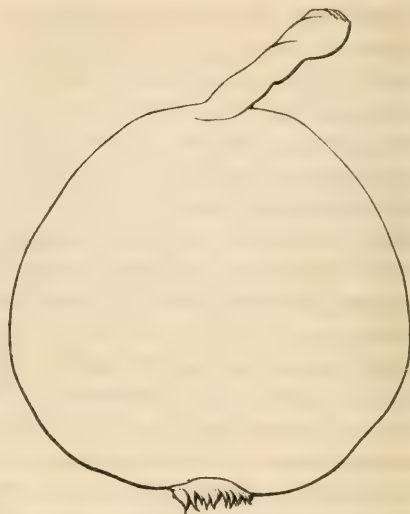


Fig. 409.—The Kirtland Pear.

rich crimson russet, varying to a dull green; texture fine, melting, juicy and rich; colour of flesh white; flavor aromatic, sweet, and in the highest degree delicious; seeds unusually full, short, blackish; stem six-eighths of an inch in length, thick, and somewhat curved; eye small, moderately deep, with the segments of the calyx short, reflexed and persistent; season September. The wood is the same colour as the fruit, and the general habit of the tree resembles a thrifty White Doyenne.

"REMARKS.—In the close of the year 1819, I furnished my brother, H. T. KIRTLAND, with a few seeds of the Seckel pear, grown in the state of Connecticut. From thence he raised several trees on his farm in Poland, Mahoning county, Ohio; one of which he gave me in the year 1825, which produced the fruit exhibited at the New-York State Fair, last autumn, at Buffalo. It is no novelty in Mahoning county, Ohio, but is well known by every cultivator of fruit, and is esteemed as one of the first varieties. In hardiness and productiveness it far excels the parent Seckel, and in point of flavor is esteemed superior by many people. The name attached to it has designated it for years, and was applied by the public as a compliment to the originator of the seedling, HENRY T. KIRTLAND."

Among the reports from various states, we notice a graphic one from Dr. KENNICOT, of Illinois, which lets us into the difficulties of fruit culture on the prairie lands of that state. The extremes of temperature, and the sudden variations of climate—much greater than we of the middle range of the

Union know anything about—render the culture of many fruits difficult. Notwithstanding this, there is great encouragement to plant orchards; and there are now 50 or 60 nurseries, of considerable size, in a state where 15 years ago there was scarcely such a thing as an orchard from one end to the other. The truth is, though northern Illinois is cold in winter, the thermometer falling sometimes as low as 20° below zero, yet the summers are so fine and the soil so fertile that, as the common phrase goes, “orchards are bound to grow there.” We are glad to learn from Dr. K.’s report, that seedling peaches have borne, uninjured by the severity of winters which killed many of the imported sorts. Here is a hint that should not be overlooked in the northern belt of the Union, where “the peach crop cannot be depended on more than two seasons out of five.”

The curculio, and the knots, are quite as troublesome in Illinois as at the east, and the pear blight far more so.

On the whole, we should judge that there are many difficulties attending the culture of choice fruits at the west, that will disappear when the country shall have been longer cultivated, and the over fertility of the soil,—which causes sponginess in the young wood, and plethora in the vegetable system,—is corrected.

In a very excellent report, made by Mr. PHŒNIX, of Wisconsin, he enumerates the peculiar difficulties experienced at the west, in fruit culture, and observes that the two great desiderata there, are,

“1st. So to modify and cultivate the soil, that the growth of trees shall be moderate and perfectly matured.

“2d. To protect and shelter tender trees, as far as possible, from injury in our winters.”

“These objects will be best attained, as I conceive, by the following means: Selection of the hardest sorts; elevated situations for fruit trees, and a soil not too rich; cultivation early in the

season only; and protection by buildings, fences, hedges, &c., from our piercingly severe, drying, winter winds. I am inclined to think that some applications may be made to the soil, to induce an early mature growth.”

These are good suggestions. They bear directly on the fact, that the climate of this north belt of the Union is severe in winter, and therefore varieties must be sought for, or originated, which are to bear that climate; and that there is a superabundance of vegetable matter in the soil. Touching this last point, we will make one suggestion.

If we were planting fruit trees in the west, upon new and fertile soil, we would always plant them on hills or ridges, raised one foot at least above the surrounding level. This would keep the collar of roots always a little “high and dry,” and would force the tree to make short growth, and mature its wood early, hence exemption from the diseases that arise from excess of respiratory food.

Next, we would contrive to reduce the quantity of vegetable matter in the soil, and increase the lime and potash, in order to give greater firmness and consistency to the solid parts of the tree. This might be done in some cases by *burning* a portion of the soil, and in others by applying lime and ashes directly, as a top dressing.

The borders of the great lakes enjoy a comparatively mild climate, where the peach succeeds admirably,—much finer rareripes being produced on the southern shores of Lakes Ontario and Erie, than in New-Jersey.

From the report of Mr. ELLIOTT, of Cleveland, (which we would gladly notice in detail if our limits would allow,) we gather that the cherry, known as the “Swedish,” in Ohio, is synonymous with the Early White Heart, and the “German May Duke,” of the same district, is identical

with the Early Purple Guigne, as we suspected. Dr. WENDELL, of Albany, in his report, gives a description and figure of a seedling from Monroe county, N. Y., called the "Kingsley Apple," which is spoken of

in terms of high praise. Guthrie's Apricot plum, a celebrated Scotch variety, has fruited in Albany, and is ranked below our fine native seedling plums by Dr. WENDELL.

FOREIGN NOTICES.

REAL EVERBLOOMING ROSES.—A continuous blooming rose, like the old common and crimson China, should be chosen in preference to any other, by all those who have small gardens, because they do not leave off flowering till the frost actually nips them. Those, therefore, who can plant but few will always have them in bloom. For this list, we are indebted to Mr. RIVERS, who has been kind enough to select them from much too large a catalogue for persons of small means to choose from.

Archduke Charles—rose, changing to crimson; very fine show flower.

Clara Sylvain—pure white and very distinct, do.

Cramoise superieure—brilliant crimson; most beautiful.

Eugene Beauharnais—bright amaranth; fine.

Madame Breon—brilliant rose; erect flower stems.

Mrs. Bosanquet—pale flesh colour; waxlike; superb.

Napoleon—very large blush, do.

President Olbecque—cherry red, do.

Prince Charles—brilliant carmine, do.

Annie Plantier—bright fawn colour, tinged with blush.

Carmine superb—fine deep carmine, do.

Eugene Hardy—creamy pale blush; fine.

Tancrede—very deep colour.

The first nine are perhaps the best, if there be any preference; but it is doubtful. The following are NOISSETTES, blooming in clusters:

Fellenburgh—bright crimson.

Mrs. Glegg—pale flesh, nearly white, and dwarf habit.

Ophire—bright salmon and fawn; very fine.

Pourpre de Tyre—crimson purple; beautiful.

Zoheide—brilliant rose; very perfect.

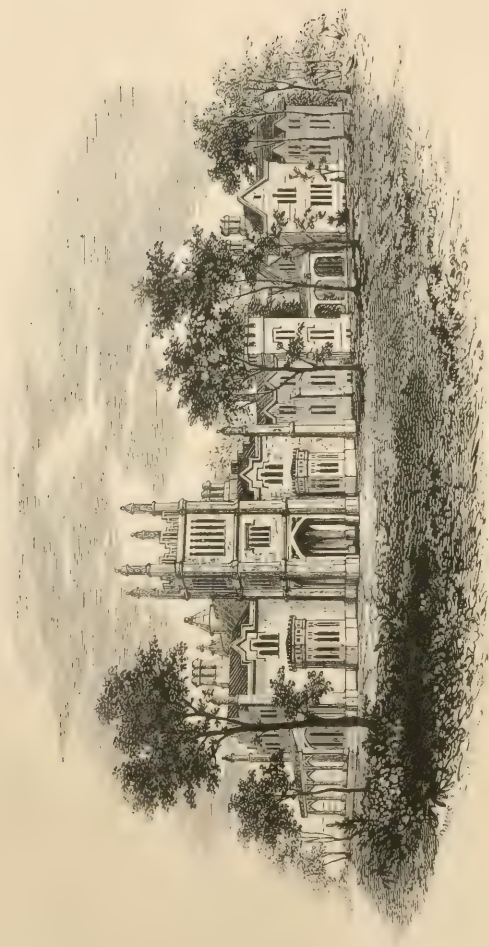
Aimee Vibert—pure white and very beautiful.

To these may be added Nankin and Lelieur.

Whatever other roses may be had, these ought to be first with those who have room for but few. A rose is too conspicuous an ornament to be dispensed with; but it is far better to have them all blooming as long as the mild weather lasts, than to see bare trees and bushes after the month of July; and this can be very well secured by a careful selection at the outset. *Glenny's Garden Almanac*, 1850.

FROSTED PLANTS.—If, however, "once upon a time,"—as many of the old story books commence their wondrous tales—you should inadvertently give admittance to the icy king, do not either at once give up your plants for lost, nor yet be in too great a hurry to dislodge your freezing enemy. The advice which the King of Day gave to his ambitious yet earthy-headed son, when he counselled him to avoid extremes, and take a middle course—might, in many cases, be regarded as a good rule for regulating many gardening operations. Like Phaeton, lashing into madness his father's fiery steeds, many of us get into such a hurry that we cannot spare time quietly to ask ourselves as to the *why* and the *how* of our doings. Many green-house and cold-frame plants will stand several degrees of frost uninjured—that degree of low temperature which they will endure being in proportion to the nature of the plants, and the means which have been taken to harden their constitution: always provided they are allowed, or rather forced, to thaw again slowly and gradually. Of course there are limits, beyond which no care nor patience can ever recover plants thus frosted, such as when the sap vessels and cells are so effectually burst that no circulation can take place, and consequently decomposition must ensue. But when this extreme injury has not been reached, the plants may generally be saved by the avoiding of any sudden change. Thus, in such circumstances, whatever covering the plants possessed should remain upon them for the following day or two, and all the more if those days should happen to be bright and sunny. If the frost continues, turn the old and add fresh covering, to prevent it penetrating farther, and thus make matters worse. If a sudden and warm thaw succeeds the frost, allow the covering to remain, until the temperature within and without should become gradually equalised. If, however, the storm has been severe, and the quantity of necessary protecting materials bulky, and such as would easily ferment in a close warm atmosphere, then this fermentation must be avoided by removing a portion, as heat thrown in upon the plants from such a cause would be even more injurious than exposing them at once to a mild atmosphere.

From want of attention to these simple matters,



BELMEAD.

Hort: April, 1850.

young gardeners and amateurs frequently lose many of their floral favorites. They know that in general circumstances their little pets dearly love the sun's light, and they hasten to expose them to his influence, displaying as much wisdom as parents who allow their young ones to place their very cold toes and fingers as near as possible to the blazing fire, and they wonder how it is possible that *they* can be so crippled with chilblains! Every good housewife knows that it would be downright madness in her to place frozen butcher's meat, or frozen vegetables of any kind, in hot or boiling water, well aware that she would only disgust and injure her guests with a mass of insipidity and decomposition. She places them first in the coldest water she can procure, that the frost may be discharged slowly and gradually, but effectually, before she commences the cooking process. Precisely the same principle must be resorted to in the case of tender plants slightly frozen, only, in the present case, as any addition of moisture would be a future annoyance, we must dispense with cold water, and allow them to be thawed by the milder atmosphere gradually reaching them. "But then," says friend Still, have-a-doubt, "it seems so odd that you should be always recommending as much light and air as possible to *growing* plants, and yet here you wish me to exclude for a time the influence of both." In reply, there are few general rules without exceptions, and these exceptions, if not too numerous, only give strength and validity to the rule. But, in the present case, we desire no exception, as the rule is unbroken. We advise that greenhouse, window, and bedding-out plants, preserved during the winter in places without artificial heat, should be kept from growing as much as possible, by keeping them cool and dry. We advise that they should have every possible exposure to light, that the little growth which does take place might prove an addition to the substance of the plant, and not a mere extension of the matter it previously contained, such as would be the case if the plants were in a dark sultry atmosphere. And we recommend abundance of air

for keeping down all those fungous broods which gardeners technically call damp, and which, if allowed to accumulate in a close warm atmosphere, would soon make all your plants fit for the rubbish heap. Hence it is that the covering up of plants from light and air for any length of time, when still in a growing state, is attended with such disastrous consequences. Very different is it in the case before us. The plants are slightly frozen, and, therefore, growth is at a standstill. The cold will prevent moisture rising and being deposited, and, therefore, there will be nothing to feed and support those fungous damps which usually visit us. If the plants are not frosted enough to be permanently injured, they might thus be shut up for months, without taking more injury, provided the frost lasted as long. I think it was Mr. Errington who some years ago, in one of his admirable papers, recommended the allowing young cauliflower-plants to be slightly frosted before covering up. Upon the same principle, the nearer your hardy green-house or window-plants are to the freezing point, the more safely will they bear a lengthened covering up from light and air. The difficulty we have chiefly to contend with is, the rapidity of the changes of temperature in this country, which render frequent covering and uncovering necessary. For instance, verbenas are yet quite green, after the frost on the 23th, but a temperature of 50°, and a heavy fall of rain, will keep them so growing again that they will become easy victims to the next severe frost. Were our winters confined to a certain number of frosty weeks or months, we might allow many of our bedding-out plants to be slightly frozen, and then cover them up for the winter, removing the covering only when the cold season had passed away. This is the treatment that the majority of Alpine plants receive, from nature clothing them in winter with a mantle of snow, and the care and attention requisite for their cultivation in this country arises not from their tenderness, but from the changes to heat and cold, to which they are unavoidably subjected. *R. Fish. Cottage Gardener.*

DOMESTIC NOTICES.

FRONTISPIECE—BELMEAD, VA.—The mansion house at Belmead is situated upon the James river, Va., 40 miles above the city of Richmond, and is in the pointed style of architecture of the English Tudor age. The designs were furnished by ALEX. J. DAVIS, of New-York, in 1845.

The plan is extensive, embracing out-buildings serving many purposes; and few country residences in the United States have more ample accommodation. The material is brick, covered with an excellent stucco, laid off in courses, and oo-

loured with warm grey tints in fresco, to match the trimmings, which are of well worked granite from a neighboring quarry. The details of the architecture are full of character, and picturesque in their effect. The south entrance carriage way is 18 feet square, pointed, arched with a groined ceiling, under a lofty gable. This leads to a platform 13 by 18 feet, connecting with a terrace upon one side, and an umbrage upon the other. Part of the latter, seen in the engraving on the left, affords shelter to those witnessing arrivals or

departures. The front door opens into a hall, 38 feet long and 16 feet wide. At the centre of this hall, a transept passage leads to a library on the right, and private apartments, kitchen offices, &c., on the left. On one side of the hall, nearest the front door, is the principal stairway, circular in form, near which is a bath-room, with closets, entered from a chamber and dressing-room beyond; and on the other side of the hall is an office, or library cabinet, 12 by 17 feet. Adjacent is the library 16 by 23 feet, fitted up with cases the entire height, and filled with a choice collection of books.

And now from the *look-in* front, we will proceed to the *look-out* front, shown in the engraving. The great tower is 20 feet in diameter, and near 60 feet high. The arcaded vestibule is again groin arched, and open as a portico, and serves as a gallilee to the hall of entrance. The angle nearest in the engraving, contains the drawing-room, 17 by 25 feet, exclusive of the bay window, from which an extensive landscape view across the valley of the James river, and the distant hills,—the river meandering in the midst, its silver line lost in the distance. The bay windows are richly bordered with stained glass of ruby and gold, in vine-like forms, executed by HARRINGTON, of New-York, producing a rich and mellow tone of light in the apartment, in admirable keeping with its character; and the several mantelpieces have wheat, maize, and tobacco, the staple productions of the plantation, sculptured upon their marble surfaces. The library and drawing-room have windows opening into a portion of the umbrage, intended as a conservatory for plants, which will give these rooms an air of summer, even in the depth of winter. This conservatory, forming a part of the umbrage, may be entirely removed in the summer, if it should be preferred to have the whole open for promenade. The dining-room has a china closet on the right of the chimney breast, and a spacious butler's pantry on the left. This dining-room is on the right of the tower in the view, and has its bay, like the drawing-room; and beyond are the offices, covered way to kitchen, &c., the latter being nearly lost in the forest on the west end of the site. The upper part of the tower contains an observatory and museum; and the subordinate parts are occupied by bedrooms, picture gallery, hall, and various accommodation. The great hall, and through it the whole house, is heated by a furnace in the basement. A supply of water, forced up by the hydraulic ram, from the foot of the hill, 400 yards distant from the house, rises 160 feet above the spring to a reservoir next the roof, delivering one gallon per $1\frac{1}{4}$ minute, is conducted by pipes to the bath-rooms, water closets, and the several chambers.

In the view here given, the artist has chosen a position showing the east end and north front, as seen from the river. The entrance front being on the south side, has only the finial over its gable,

visible beyond the sky-light on the roof. Although the whole composition evinces great unity of feeling, it has nevertheless more variety of feature than we have ever before seen successfully introduced into a villa. Of windows alone, there is almost every kind used at the period, or era, to which the style belongs,—the triple lancet, the arched, the square headed, the bay, the oriel, and the triangular. There are three or four varieties of gables, with buttresses and turrets, and an air of originality and boldness is bestowed upon the whole composition by the great tower, with turretted angles, serving to give a pyramidal and artistical form to the whole pile of building.

This style of building, of which we have given a specimen in the mansion of Belmead, most especially recommends itself in rural residences, and their appendages. It admits of an agreeable symmetrical irregularity, and great variety of outline, both in plan and elevation. It is suited to uneven ground; and additions of rooms or offices may be made in it from time to time, with an increase of picturesque beauty, while it possesses many advantages for convenience, and the essential recommendation of being within the limits of economy in the execution. High roofs and chimney tops, which are inadmissible in the Grecian style, here contribute to picturesque character. Another circumstance that tends greatly to recommend this style for domestic buildings, upon a moderate scale, is that it allows the windows to be of very different dimensions and proportions, and plainer or more ornamented, on the same floor, as either internal convenience or the external elevation shall require. Neither is it one of its least favorable peculiarities, that such frequent and extensive application may be made of the projecting, or *bay* window, which admits of great diversity in the plan, proportions, elevation, and embellishment. While features of this description are almost sure to *tell* externally, and to possess a pictorial, if not invariably a strictly architectural value,—among other reasons, because when they rise from the ground by advancing beyond the general mass, they give an appearance of great solidity to its base; so do they come greatly to the aid of the architect in the interior, he being thus enabled to enlarge any particular room, without similarly increasing the one above it, or extending the general plan. They also materially conduce to beauty and cheerfulness within, inasmuch as they lead to variety of form, in the plan and disposition of the rooms themselves, and because, by projecting, they admit gleams of sunshine into an apartment both earlier and later than other windows having the same aspect. Even when a window of this kind has no lateral lights, and forms but a shallow recess, it conveys the idea of solidity in the walls, by seeming to be a deep *embrasure* cut out of their thickness; and as it generally enables us to dispense with other windows, at least on the same side of the floor, greater space may be obtained

between the window itself and the walls at right angles to it. The advantages resulting from this are not unimportant. In the first place, it enables us to place larger pieces of furniture on that side of the room; secondly, although a more extensive view is obtained of the prospect without, on which the window recess serves as a frame, the apartment itself seems less exposed, while the sun is less troublesome in summer. In addition to the recommendations already pointed out, bay and oriel windows assist greatly in keeping up symmetry where there are recesses, or even breaks in other parts of a room. The entire window enlargement of bay or oriel may also be shut off at night and in cold weather by sliding doors, so contributing to the comfort and warmth of those within.

The pointed style of architecture has already become popular for country dwellings on this side the Atlantic; and several of first class, such as "Kenwood," near Albany, N. Y., and "Walnut Wood," near Bridgeport, Ct., (also from the designs of Mr. Davis,) are fast initiating the American builders into a familiarity with its peculiar features; and as these become known, so will each succeeding example express more fully and accurately, according to its extent, the suggestions of an imaginative proprietor, combined with talent in the architect, its manifold beauties. * *

NOTES ON THE NEW VERBENAS.—Among the many "floral gems," for which the horticultural public are indebted to the Messrs. THORBURN for their introduction, there are few that are likely to give more general satisfaction than the unrivalled collection of verbenas which they advertise in the March number of the Horticulturist. It is not to be denied that most of our American seedling Verbenas are not worthy a place in our gardens. Their habit is in general too upright, the trusses of bloom are small and ill-shaped, and the foliage poor. Messrs. THORBURN advertise a collection that will make sad havoc amongst them. Being one of the first that was favored by Mr. THORBURN with a plant of "Robinson's Defiance," I can speak from experience of its merits. Any of your readers who have grown "Beauty Supreme" last year, can form a pretty accurate conception of Defiance when I inform them that it has the same vigorous habit, the same sized truss, and larger foliage, and that it is a superb scarlet. It has flowered with me in February last, and is likely to be as free a bloomer in the green-house as Beauty Supreme; it is every way superb. Rosy Morn, Anacreon and Satellite, are each of them possessed of the same qualities. I saw the whole collection in flower in Mr. THORBURN's grounds last summer, and was charmed with them. There is no one pretending to have a bed of verbenas should be without them. If Messrs. Thorburn would introduce a pure white, possessing all the qualities of the above named, it would have a great run. To those purchasing the above, (including Beauty

Supreme,) I would recommend to add the following, which I consider the best of our American varieties, viz. Briells, Jas. K. Polk, Buist's Eclipse, Boll's Major Ringold, and Hogg's Bicolor Grandiflora, and, in the absence of a better white, Queen. Of sixteen varieties I have, I intend to throw all away, and confine myself to the ten varieties I have mentioned, which I consider the best in the country. Yours, respectfully, *John Quinn, gardener to Henry Vail, Esq., Ida Farm, Troy, N. Y., March 12th, 1850.*

AMERICAN CAMELLIAS.—We have lately had in bloom, upon plants obligingly sent us by Messrs. PARSONS, of Flushing, N. Y., specimens of those two fine Camellias, originated by Col. WILDER, of Boston,—C. Wilderii and C. Abby Wilder.

They are certainly both fine varieties; the first a beautiful deep rose colour; the other white, with sometimes a delicate blush stripe.

CAMELIA WILDERI is perfection; that is to say, the most acute critic of florist's flowers, can find no fault with it, in form, size, arrangement of petals or colour. It fully deserves all the praise that has been bestowed on it.

And this reminds us to say, that the first of Camellia amateurs, N. J. BECAR, Esq., of Brooklyn, has raised three or four seedlings of the first merit—sorts that would make the fortune of a commercial gardener in Europe—and yet which, with his characteristic modesty, he has not even presented to public notice in any way. We have seen them several times this winter, and do not hesitate to say, they are equal to the very finest varieties produced abroad.

Mr. B., who has the finest Camellias in America, and has raised hundreds of seedlings for his own amusement, is of opinion that the seed of the Camellia ripens in our climate much more easily and perfectly than in Europe, and that it is easier to produce fine new varieties here than on the other side of the water.

FINE COLLECTION OF PLANTS.—Passing through Williamsburgh a short time ago, we had great pleasure in a hasty examination of the fine exotic collection of Rev. A. P. CUMMINGS, of that place.

It is evidently the collection of an amateur fond of rarity and variety, but still not mere botanical curiosities; and contrasts favorably with some of the mere show collections of common species frequent about New-York. With respect to the variety of plants, it resembles some of the fine private collections in Philadelphia. Among the pretty species which we saw in bloom, were *Begonia manicata*, *B. hydrocotifolia*, *B. fuschsioides*, and *B. evocinea*. *Poinsettia pulcherima*, that gay Mexican plant, was glowing with its bright scarlet bracts; *Euphorbia splendens* and *jacquiniiflora* were in full beauty; *Crinum longiflorum* was exceeding pretty; and that exquisite plant *Epacris grandiflora*, was finely decorated with its parti-coloured bells. Among other species in flower

were *Habrothamnus fascicularis*, *Echeveria grandiflora*, *Chirozema varium*, *Polygala cordata* and *P. grandiflora*, etc. A large variety of Camellias were also in full beauty, among which we noticed Sacconova, Prince Albert, Wilderi, Henri Favre, and many other excellent sorts.

The whole collection does credit to the skilful gardener, M. COLEMAN, who is one of the best plant growers in the country.

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A BUDGET OF QUERIES.—None are more interested than myself in the queries and answers, which monthly appear in your journal; and supposing other readers feel a similar interest, I would like to propose a few, and solicit the editor's answers.

1st. Many valuable articles have appeared, editorial and communicated, in favor of the Osage Orange as a hedge plant, and placing it at the top of the list for that purpose. Has time, trial, and further experience confirmed these early impressions? (a)

2d. As great and extensive failures have occurred in propagating it from seed, either because it was old seed, or not properly managed, I would inquire whether age affects it, and what is the probable cause of so many failures? Whether submitting it to the action of frost, mixed with sand, or soaking it in water before planting, is the better way? (b)

3d. The "Working Farmer," edited by Prof. J. J. MAPES, New-York city, held out the opinion some months back, that if we did not wish to lose the use of the ground for twelve feet on each side of the hedge, do not plant the Osage Orange. No reason, or facts were given; yet not a few of us would like to know whether there is any ground for such broad assertions? (c)

4th. Does further observation and experience still give the preference to double, over single rows, in hedge planting? (d)

5th. What are the best varieties of apple, to dwarf on the Paradise stock? (e)

6th. What varieties of the cherry on the Mahaleb? (f)

7th. What variety of Quince stock is the best to work the pear on? I notice some disagreement among the *doctors* on this point. (g)

8th. Why should the interesting "JEFFREYS," in your January number, declare—"In hedges, I have no sort of confidence?" And in offering his substitute, "wire," in which he has "*entire* confidence," has he offered a substitute which will answer the ordinary farmer, with limited means? and will it answer for road sides, and all outside enclosures? (h)

Enough, and I fear too many questions for one time; and I will postpone the balance. Respectfully, &c. J. Chester county, Pa., Feb. 13, 1850.

ANSWERS.—(a) We still think as highly as ever of the Osage Orange, as a hedge plant, for all points south of this; and the Buckthorn for districts north and east.

(b) We believe most of the failures in germinating the Osage Orange, is from the bad quality of the seeds. We understand that it has been the practice of some persons in Arkansas and Texas, who supply seeds, to get them out of the fruit (a rather tedious process, in the usual mode,) by first *boiling* the fruit; a process which, of course, injures the vitality of the seeds. When the seeds are picked out as they should be, they germinate as freely as peas, if sown in the spring in the same manner.

(c) The Osage Orange, when left to grow into a tree, sends out long roots; and so it will when planted in a hedge, and allowed to run up 8 or 10 feet high without clipping. But every observer knows that the roots of a tree extend in proportion to the extension of the top; and hence an Osage Orange hedge, which is clipped once or twice every year, and not allowed to grow more than 6 feet high, will never prove injurious by occupying more than its due share of the soil.

(d) Double rows, if a thick and impenetrable barrier against animals is the object, and a single row if the effect of a screen only is desired.

(e) The following are well adapted: Early Strawberry, Porter, Swaar, Dutch Mignonne, Vandervere, Waxen, Red Astrachan, Summer Rose, Ladies' Sweeting.

(f) All the varieties; but it is especially valuable for Bigarreau cherries, which do not bear well in some soils.

(g) The Angers quince.

(h) JEFFREYS belongs thoroughly to the spirit of the age, which demands the most economical, useful, and practicable things for the moment; and among such, undoubtedly, is the wire fence. A good hedge is more ornamental, more impenetrable, and more beautiful to the eye; but it requires time, and patience, and annual *care*, besides occupying more room than the wire fence. Each will find its advocates among certain classes of thinkers.

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CIRCULATION OF THE SAP.—If we take a glass tube, open at both ends, and put one end of it into a vessel of water to the depth of an inch,—after covering that end of the tube with a piece of bladder, or other animal membrane, and then pour into the tube a solution of sugar and water, so as to fill up the orifice eight or ten inches,—it will be seen in a short time that the liquid in the tube will rise, and sometimes to the height of several feet, and, at the same time, a downward current through the bladder into the water below will take place; which different movements of the fluid are no doubt due to two opposite currents of electricity. When DUTROCHET made this discovery, he thought he had learned the true theory of the circulation of the sap; that he had brought to light one of the hidden things relating to vegetable physiology. But I would ask whether this theory is quite satisfactory? Whether it is not open to, and liable to

some objections? In the experiment referred to, the ascending current is through the descending and against its motion. This is not so in the plant. The downward flow is through the same channel as the upward. The liquid in DUTROCHET'S tube does not receive any additions, or undergo any changes from the atmosphere, before it begins its descending movement. Is this so in the vegetable organization?

But my purpose is not so much to oppose the theory in question, or to propose a new one, as to express a hope that you will give us your opinions on this subject in that journal, the discontinuance of which, for any reason, your subscribers in this region would regard as almost a national calamity. *C. Smith. Newport, N. Y., Feb. 4, 1850.*

ANSWER.—Undoubtedly DUTROCHET'S explanation of the galvanic law, by which, when two fluids of unequal density are separated by a membrane, the denser is positively, and the less dense negatively electrified; and hence two electric currents of unequal power set through the membrane, carrying the fluid with them, is correct; and it is by this law that the fluids of plants being denser than the water in the soil, the latter is, under certain conditions, continually impelled into their systems. But the vital force—the living principle—governs even this law, and is the real cause (if that can be termed an explanation,) of the circulation and secretions of plants. ED.

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ASSOCIATION FOR COLLECTING RARE TREES AND PLANTS.—We ask the attention of our readers to the following excellent suggestion by Mr. BARRY, of Rochester. The plan is one that has worked well abroad, and seems to us very feasible at the present moment, here. We think the Massachusetts and Pennsylvania Hort. Societies will enter into the plan liberally; and we shall be glad to hear from amateurs and commercial gardeners who feel interested in the matter. ED.

Dear Sir—Since my visit to Europe last winter, the subject of obtaining seeds of the magnificent pines, firs, and other rare and valuable trees and plants of Mexico, California, Oregon, &c., has been constantly in my mind. When I saw the lawns and arboreturns of England studded with them, and in Belgium and France immense ranges of houses devoted to their multiplication, and when I found that not horticultural societies alone, but individual cultivators were enthusiastically and successfully engaged in collecting and introducing them, in opposition to the most formidable difficulties, I thought, that with our much talked of enterprise, it would be most remarkable indeed if some effort of the kind should not be made here; and the more particular, as recent golden events have created such close and constant communication with these regions.

The botanists and horticulturists of Europe, who regard with wonder and admiration the vast vegetable riches of this continent, cannot understand why so little attention seems to be given it

here, considering that such a large proportion of our population are devoted to the culture of the soil. Sir WM. HOOKER, of the Kew Gardens, and others, complained to me of the difficulty and even impossibility of obtaining from our settled and populous districts even, many rare species of plants, in consequence of their not being known or cultivated. The reasons for this are all obvious enough to us. The circumstances of our country, in many respects, have been such as to prevent any considerable attention to the culture of rare trees. Our best landscapes have been worked out of the original forest, which have at the same time afforded an ample supply of timber for all purposes of the arts. Arboriculture has, consequently, been, in the main, confined to fruits. A short time ago we had a correspondence with a gentleman who was about forming an arboretum; and after applying to nearly all the American nurseries, in vain, for specimens of American trees, he found he had to order most of them from Europe. The truth is, there has been no demand until quite recently for more than a few very common and well known species of ornamental trees and shrubs; and what is not in active demand will not be cultivated in this country, at least by professional cultivators.

But there are great changes going on in the condition and circumstances of this country. The natural forest is disappearing rapidly from a very large portion of the country. Towns, cities, and villages are increasing in number, population and wealth, at a pace that almost outruns the imagination. Around all these cities, towns and villages, suburban dwellings of various grades are springing up. These have no longer the native trees to shade and shelter or embellish them; and hence they must *plant*. Planting is therefore going on in a manner and spirit altogether unexampled in this country; and the prospect is, that the attention to be given it in future will quite equal the neglect of previous times. Americans seldom do things in a small way. Their ideas and plans usually partake of the grand and comprehensive. So that when we once see the public mind awakened on any given subject, we may expect to see it prosecuted in a vigorous and effectual spirit.

Throughout the whole country, we hear and see evidences of an interest in landscape gardening. The President of the Massachusetts Horticultural Society has introduced the subject in his recent annual address, and suggested that a professorship for this department be established. The prospect is that we shall soon have public gardens, in connection with agricultural schools and colleges. These are all the evidences and results of the public taste and sentiment on these matters. Within a few years, considerable quantities of rare trees have been imported from Europe, notwithstanding their high price and the many risks attendant upon their transmission. I have this moment before me an invoice of up-

wards of 40 species of new and rare evergreens, pines, firs, cedars, &c., on their way hither.

My attention, at this time, has been drawn to the subject in a particular manner, by similar and simultaneous suggestions in an English journal and your February number. Your correspondent, A. W. COKSON, suggests the formation of a society for the introduction of the trees and plants of California, Oregon and Mexico. In Edinburgh, we see by the London Gardeners' Chronicle, a meeting was held in the Botanic Gardens on the 22d of November. LORD MURRAY introduced a series of resolutions on the subject; one of which was—"That with the view of raising the necessary funds, each person willing to support the proposal, shall subscribe the sum of £5, or so many sums of the like amount as they may please; each subscriber being entitled for every such sum of £5 to a corresponding share of such plants and seeds as may be collected, and from time to time sent home. No subscriber to be liable for anything beyond the amount subscribed by him." This plan is the result of necessity; as it is found impossible to obtain seedling plants of the noble Conifers, discovered and introduced by the lamented DOUGLASS. We have no doubt but the plan will be well sustained throughout Great Britain. And now, let me ask why we cannot adopt a similar mode of introducing these trees. We have great advantage over Europeans, both in regard to distance, and frequency, and regularity of intercourse. Recent events have brought us into close and constant communication with these regions; our people are scattered all over them; and it appears to me, if a competent and reliable collector could be found, that we might in one year do more for the introduction of these trees than others can do in five or ten.

It strikes me that the nurserymen of the country, and gentlemen who are making collections of rare trees, are numerous enough to raise a sufficient fund for this purpose; and if the project appears feasible to you, I would take this occasion to propose that every one who approves of, and is willing to aid the plan, will send his name to you, and state at the same time the amount he is willing to subscribe. When the subscriptions have, in this way, reached an amount that may be deemed sufficient, a meeting of the subscribers, or as many of them as could conveniently attend, might be held in some of the large cities to arrange the details. I offer these suggestions without assuming any lead or prominence in the matter whatever, simply with a view to direct attention to what appears to me, at this time, a highly practicable plan of operation. We cannot wait for horticultural societies to move in this matter; for though some of them may possess ample means, yet all the members may not agree to such a mode of expenditure. Neither can we hope for anything of consequence from parties who go to these countries unqualified for this, and with minds bent on other absorbing pursuits.

Those who feel interested in the matter should associate and act immediately.

I am authorized to say that E. and B. will subscribe at least \$100. Others here will undoubtedly contribute. Yours, &c. B. ROCHESTER, February 19, 1850.

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VISITS TO GREEN-HOUSES.—MR. FLOY'S, Harlem. The plants here consist principally of Camellias; several of which are now in bloom, and very showy. There are also some handsome specimens of *Strelitzia Regina*, India Rubber, and other ornamental plants. The pots and houses here are, to his credit, the cleanest that came under my notice. MR. FLOY is well known to florists as the originator of a showy Camellia, commemorating his name.

MR. HOGG'S nursery, near Yorkville, possesses a large collection of the rarest and newest plants. Those I particularly noticed are *Lettsomia tomentosa*, a beautiful evergreen climber, from Peru; *Raphistemma (asclepias) pulchella*, stove evergreen climber, from East India; *Gardenia Fortunei*, MR. FORTUNE'S, from Cape Jasmine, China; *Æschinanthus Rozburghii*, a stove plant, that ought to be in every collection; *Clerodendron scandens*, var. *rubrum*, stove evergreen, from Sierra Leone; *Aphelandra aurantiaca*, a splendid stove evergreen shrub, from Mexico; *Porphyrocoma lanceolata*, a pretty stove plant, remarkable for its large heads of purple bracts and flowers; also, *Nematanthus longipes*, (formerly *Columnnea grandiflora*), one of the finest tropical plants in cultivation. It produces, from the axils of its leaves, long thread-like peduncles, bearing large, deep crimson flowers. It was collected by the late Dr. GARDNER, on the Organ Mountains in 1841. I noticed, also, *Zychia parmosa*, greenhouse climber, from Swan river; and *Henfreyia scandens*, a splendid climber, from Sierra Leone. To grow the latter to perfection, it requires a bottom heat of from 75 to 80 degrees, and to be shaded in bright sun—(Paxton.) There was a large plant of *Combretum coccineum*, showing its flower stems. One of the greatest curiosities in Mr. HOGG'S green-houses, is a large specimen of *Bonaparteia gracilis*, with its leaves subdividing into threads, like the well known *Yucca filimentosa*. Some nice flowering plants of *Gilia* (Cantua) *aggregata*, a pretty scarlet biennial were in bloom. There was a pretty species of *Tillandria* also flowering here; it was, like most of the genus, growing epiphytal, with some Orchids upon a block of wood, suspended from the roof; pseudobulbs, from two to three inches long, producing from their summits a stem, bearing ten or twelve exquisite blossoms; perianth purple, anthers and stigma straw coloured; bracts rose; leaves about 17 inches long, whip-like, having something the habit of *Scuticaria Steelii*. It was imported from Para. *Secropia palmata*, a tropical tree, remarkable for its beautiful foliage and hollow stems, attracted my notice. Its wood is employed by the

southern aborigines to give them light by friction. There were several fine plants of the rare *Sem-pervivum tabulaforme*, spreading over the pots on every side.

In addition to the foregoing, there are several Orchids growing in various ways; some in pots, some in baskets, and others in their most natural position—on blocks of wood. The representatives of this curious and beautiful order in Mr. Hogg's collection, are chiefly *Cattleyas*, *Gongoras*, *Acroperas*, *Oncidiums*, *Laelias*, *Stanhopeas*, *Maxillarias*, and *Schomburghkias*. *S. tibicinis* is, from the shape of its pseudo-bulbs, called the "Cow-horn Orchis;" when these become hollow they are used by the natives of Honduras to produce a sound similar to that made by blowing a horn.

Mr. Hogg's mode of propagating Camellias is deserving particular notice. He performs this business in the midst of winter, when little more can be done. His method is to cut the head of the stock, leaving only the lower branches; he next selects the scions from the varieties he wishes to multiply, and grafts it as low as he conveniently can. The stage in his propagating house consists of several shelves, rising one above the other from the front to the back, and at such distance as to admit of a board, 6 or 8 inches deep, to the front of each shelf; the back being also boarded, gives the shelves the appearance of troughs. These troughs are filled with animal charcoal; (that is, the refuse charcoal of sugar refiners.) The plants being ready, they are plunged in this in a reclined position, leaving only the rim of one side of the pots to be seen. The grafts are inserted so low as to have the part worked covered in the charcoal when in this reclined position. Whether this method be new to your readers I am not aware. I would recommend those who wish to get an idea of plant culture to call at Messrs. Hogg's. Their plants are principally low and thrifty, presenting none of those elongated walking canes, or poles, so frequently met with; and, what is yet more commendable, remarkably clean.

Since I last wrote, I have the pleasure to add the following to my list, viz: Mr. HAUSER's, near 29th Street, 3d Avenue; Mr. MONK's, do.; and Mr. BUCHANAN's, 18th Street, 5th Avenue. Mr. HAUSER's houses are all small; one is chiefly occupied with Heliotrope, and Mignonette; another with young Geraniums, which bear testimony to his qualification as a grower. The others are devoted to Verbenas, Roses, Daphnes, Chinese Primroses, Camellias, &c. At Mr. MONK's, the houses are well stocked, and show good culture, but are chiefly filled with a few popular genera, suited to sales in the market. Two of the houses here are filled with Roses, and another large house with young Geraniums. The remaining houses are filled with Camellias, Roses, Heliotrope, Azaleas, &c. Mr. MONK's plants are all thrifty and well grown. In closing my remarks, on this place, I would recommend those that want to buy Geraniums, either in good variety or well

grown, to call at Mr. MONK's and Mr. HAUSER's. At Mr. BUCHANAN's, two of the houses are mostly devoted to Roses; in one of which are some fine specimens of *Begonia fuchsoides*, and a large plant of *Combretum purpureum* in bloom; a third is a Camellia house, containing several of the newest kinds,—one in particular (Lowe's Elexine,) is very handsome; a fourth is a large house with a mixed collection, consisting of Camellias, Daphnes, Azaleas, Chinese Primroses, &c. Other houses are occupied with less tender things. I am, sir, respectfully yours, M. C.

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CATAROE GRAPE.—The Cataroe, as I understand it, is an European grape; at all events, it is not a western grape. It early resembles the Isabella in leaf and fruit, and general habit; and in the west the two are almost always confounded together, except by connoisseurs. (If it resembles the Isabella in leaf it is no European grape. Pray send some specimens to the fruit convention at Cincinnati next fall. ED.) Yours truly, J. B. Turner. Illinois College, Feb. 27, 1850.

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POMOLOGICAL CONGRESS.—Dear Sir: I observe that the Ohio State Board of Agriculture, at its last annual meeting, passed a resolution, inviting the American Pomological Congress to hold its next session at the same time and place of the Ohio state fair, which is to be held at Cincinnati on the 11th, 12th, and 13th of September next; at the same time, very kindly offering to defray the expenses of printing its proceedings. This is, to be sure a very fair offer; and as such, will doubtless be duly appreciated by the members of the Congress; but for one, I hope its next session will not be held at the same time with the state fair, and for the following reasons:

1. I think it too early in the season, before nurserymen can well leave, but more particularly on account of the immaturity, and hence abnormal state of winter apples at that time.

2. There will be, in my opinion, more danger of sickness in travelling and changing climate at that season than a few weeks later.

3. The tremendous jam, confusion and fatigue inseparably attendant upon a state fair, are quite incompatible with the highest degree of success and usefulness of our Pomological Congress, and most particularly with the comfort of its members. Such at least is the result of my experience, as well as being, so far as I am acquainted, the universal testimony of others who are familiar with such matters.

It might perhaps accommodate the state fair, and all classes interested in pomology who attend it; but would not, as I think, the Congress, or its members generally. We shall doubtless be quite large and unwieldy enough of ourselves; and therefore not only deserve, but absolutely require, a clear field—an undivided chance. We shall certainly and most indispensably need every facility that can be afforded by the most perfect order

and quiet. Very respectfully yours, &c., F. K. Phoenix. *Delavan, Wisconsin, Jan. 12, 1850.*

EXPERIMENTS WITH VEGETABLES.—Having been a constant reader of the *Horticulturist* from the issuing of the first number, and learned much in the perusal of its pages, I regard it as an incumbent duty to accompany such acknowledgments with a brief detail of some experiments which I was prompted to make from notices in your journal. The results of those experiments have, in most instances, more than equalled my most sanguine expectation, while others have exceedingly disappointed me; and in some instances their repeated trials have given me repeated mortification. That similar results would be everywhere obtained I am not warranted in saying; and furthermore, the testimony of others, equally creditable with my own, stands recorded in direct opposition to what I have to offer. The fact, that different results are obtained from experiments fairly conducted, may be accounted for from differences of climate, soil, and season, under which those experiments were made. That there are influences arising from conditions of atmosphere, which we may call *climacteric*, as well as constitutional principles of soil, affecting the growth of our vegetables, increasing or stimulating the products of our garden as well as our orchard, all may be ready to admit; but in what they specifically consist, is not in all cases so easily discovered.

The cause of the failure of the *Darling sweet corn*, as detailed below, in a region of country admirably adapted to corn, I should be happy to learn. Can you give me any light? An analogous fact is found in the failure of the Canada corn, in all the trials made of it in New-Jersey, as far as I have been able to learn. My own trial of it has been a most signal failure. The corn, known as the *Brown corn*, that originated in the neighborhood of Lake Winipiseogee, has been much lauded in the more northern states as a great yielder; and, on the farm of Mr. Crispell, of Ulster county, has been reported as yielding 90 bushels of shelled corn to the acre, for which a premium was awarded by the New-York State Agricultural Society. I obtained from Mr. Crispell a quantity of the seed, sufficient to plant a half acre, the yield of which was barely sufficient to compensate for the expense of cultivation. Would it not seem, from such facts, that there may be constitutional adaptations of this grain to particular regions of country? In other words, that when cultivated for a number of years in a region of country distinguished for its length of season, corn acquires so much of a climacteric character, adapting itself in its period of growth, be the season either long or short, as to fit it pre-eminently for that region, and disqualify itself for any other?

In the April number of the *Horticulturist* of 1848, under the head of new vegetables, you

highly recommended a trial of the *Darling sweet corn*, as a variety ripening earlier than any other of the varieties known. At a considerable expense, I obtained enough of the seed to plant a half acre. It was planted under propitious circumstances, in a field well manured, and as well tilled as other fields, from which I obtained good crops. When about a foot high, very many of the stalks began to exhibit a blasted appearance; and on examination I found decay commencing at the centre of the stalk, just below the surface of the ground, looking very much as if it had been pierced by the sting of some insect. In a few days the entire stalk would wither and dry up. In this way, more than half of the field was lost; the remainder attained the height of some two feet, gave me a diminutive ear, and a diminished crop, although it ripened a few days earlier than the other varieties of sweet corn on a contiguous part of the same field. When the crop was harvested, I found the half acre had given me just a bushel and a half of shelled corn for seed. My confidence in it, as adapted to the soil and climate of New-Jersey, was somewhat shaken; but as I had known it highly prized by an individual who had grown it in the vicinity of *Albany*, as a most valuable variety for the market gardener, and knowing that our climate was better adapted to the growth of corn than northern New-York, and that no field crops were more remunerative to the farmers of New-Jersey than Indian corn, I determined to repeat the experiment the next year. Now the past season, I gave it a different location, planted the corn (having obtained fresh seed from Albany,) the 20th of April, ten days earlier than on the preceding year. The appearance of the crop was flattering, until it attained the height of a foot or more, when the calamity that overtook and destroyed more than half of the former crop, proved to be the fate of this. The part that survived for a time looked flourishing, and promised to yield me a remunerating crop, and when about two feet in height, seemed to have attained its growth, gave me, like the former one, a diminutive ear, and if possible a smaller crop.

Another calamity, to which the variety is subject, not yet alluded to, which reduced the yield of the first season smaller than it would otherwise have been, and entirely destroyed the crop of this, for seed, is this: the corn, when almost dry enough to be gathered for seed, requires a succession of dry days. An occasional shower, just at this period, will cause the chit to vegetate in the ear, and destroy the crop.

My first experiment was made on a moderately rich interval field; the last, on a southerly slope, of a gravelly loam. I need scarcely add, I am done with *Darling sweet corn*. [This corn is excellent on strong, deep, and rather clayey loams. ED.]

But of the *Turtle Soup Bean*, noticed in the same article, I can most heartily subscribe to your recommendation of it, although it has not

been a favorite bean with my family for summer use, on account of its intensely black colour, even in its green state; and which I think will forbid its ever being a popular snap-bean.* Its excellent flavor, far superior to that of any bean we have ever used, gives to the soup a richness unequalled by any other vegetable. I will venture to say, if served up on the table of the Astor House, prepared with the addition of meat-balls, *nine-tenths* of the guests would rise from the table praising the turtle soup. As a dry, winter bean, when made into soup for family use, it is certainly without its equal. Last season I made trial of some fifteen kinds of bean. No one of them is as highly prized in our family as this; and the longer we use it, the better we like it. It is a great bearer, and well adapted to light and dry soils. Tell your readers again to make trial of the Turtle Soup Bean. It can be found at SHEPHARD'S, 145 Maiden-Lane, [or at THORBURN'S,] New-York.

At another time, I may give you the result of other trials of the new vegetables. J. M. Ward.
Hill Cottage, Newark, New-Jersey, Dec., 1849.

SIR—I have been a regular subscriber and faithful reader of your excellent journal, the Horticulturist, for some time, and have admired the many neat and elegant plans for cottages and country residences, drawn and described in the several numbers. But these plans, although many of them beautiful, are not exactly suited to the wants and uses of many of your *southern* readers; and the purpose of the present letter is to request that you will favor us with a few designs, suitable to our climate and our facilities, (I should say *want* of facilities,) for building in the country. The style of building generally adopted in our southern country, (I speak of *country* residences,) is neither neat or convenient; and I am satisfied if you will give your numerous southern readers the advantages of your taste and experience, you will not only effect a great improvement in the taste, but confer a public benefit by adding vastly to the comfort of the community. With us, the *summer* is the largest part of the year; and we therefore build chiefly for the summer, (of course, however, not *disregarding* the winter;) and the main points, as it seems to me, to be observed by us in building, are coolness, airiness, *cheapness*, and comfort, united with a tasteful, handsome exterior. In the sand-hills, where we have nothing to work upon but pine trees and a barren soil, it seems difficult to do much. But good taste can do a great deal; and I therefore confide the matter to your hands, assured that if you will think it worthy of your attention, you can effect everything. I remain, very truly, one of your subscribers, P. M. E. Balfray, N. C.

[Our correspondent will see, in the frontispiece for February, that we have profited by his suggestion. ED.]

* Our correspondent picks this bean too late. If picked when very young, it boils quite green, and is the very best of snap-beans. ED.

ANSWERS TO CORRESPONDENTS.

APRICOTS—V. W. Smith. (Syracuse, New-York.) As a question of *profit*, for the market, we know of no apricot that will yield so much as Dubois' Golden. It is inferior in size and flavor to Moorpark or Large Early, but we have seen Mr. Dubois taking wagon loads of the fruit to market getting a very high price, in seasons when the finer sorts did not produce at all. It is, in short, more hardy and productive than any other sort, and that is the point, for profitable culture. If your soil is one where the apricot bears and holds its fruit well, then we should say, by all means give the preference to the Large Early; but with the ordinary circumstances, as a *market* fruit, Dubois' is the best.

SELECTION OF NORTHERN FRUITS.—A. F. wishes "a small list of the best apples and pears for market culture in the Oak openings of Calhoun county, Mich." We recommend the following: *Apples*—Yellow Bellefleur, Early Harvest, Fameuse, Domine, English Russet; *Pears*—White Doyenne, Bartlett, Beurré D'Arenberg. Also, a few fine sorts for private consumption: *Plums*—Smith's Orleans, Green Gage, Jefferson; *Cherries*—May Duke, Downe's Late, Elton; *Pears*—Fondante d'Automne, Beurre d'Anjou, Seckel; *Apples*—Dutch Mignonne, Swaar, Ladies' Sweeting, Northern Spy. B. McVicar. (Milwaukee, Wis.) Two earliest and best *pears* for your climate, Dearborn Seedling, Bartlett; (if your site is too cold for this, then Flemish Beauty;) *Peaches*—Early York, White Imperial; *Plums*—Imperial Ottoman, Yellow Gage; *Cherries*—May Duke, American Heart, two latest and best; *Pears*—Beurre d'Arenberg, Wint'r Nelis; *Peaches*—Morris White, Old Mixon Freestone; *Plums*—McLaughlin, Jefferson; *Cherries*—Belle Magnifique, Downer's Late. The Red Dutch currant is more valuable for general purposes than either the Victoria or Cherry currants. Dr. BRINCKLEE's raspberries have not yet been tested out of Philadelphia, but are as fine as the Antwerp, and will probably prove much hardier.

DWARF FRUIT TREES.—An old Subscriber. (Boston.) You can train your dwarf pear trees so as to cover the wall you speak of six or eight feet high, and the fruit will be finer if the trees are judiciously pruned, than in the usual way. Duchess d'Angouleme is one of the most magnificent pears on the quince, often weighing a pound, and of fine flavor. Red Astrachan, Dutch Mignonne, Porter, Sapson, Early Strawberry, are among the ornamental apples grown as dwarfs.

ANNUAL FLOWER BEDS.—Flora, (Northampton, Mass.) The following annuals make fine beds, or masses, when sown so as to cover a surface of three or four feet each—none of them grow over a foot high, and they bloom all the summer and autumn. *Phlox Drummondii*, lilac, crimson, pink and white; *Escholtzia*, bright yellow; *Gilia tricolor*, white, purple and yellow; *Portulaca*—three sorts—purple, crimson and white;

Sweet Alyssum, white; *Silene armeria*, pink; *Nemophila insignis*, sky-blue; *Collinsia bi-color*, purple and white; the two last bloom about half the season only. Bulbs of tiger flowers, tuberose, or Gladioli may be interspersed with these annuals, to heighten the effect. If your verbenas do not flower well, renew the soil in the beds by mixing with it one-third burnt sods.

PLUM TREES.—*Prunus*, (Buffalo, N. Y.) Your soil does not suit the plum tree. Try a plentiful top-dressing, with *brewer's grains*, which LIEGEL, the first German authority, says is the best of all manures for the plum tree. Old or sour grains will answer, and we would advise you to cover the soil three inches deep, if they are easily obtained.

SPECIAL MANURES.—*B. R.*, (Philadelphia.) We are inclined to think very highly of "bone-black," the residuum of the sugar refineries, as a special manure for pear trees, in all cases where phosphate is wanted; generally the case in old gardens. This bone-black, which looks like fine

charcoal, contains 70 or 80 per cent. of phosphate of lime, and may be had very cheaply at most sugar refineries. The Messrs. STUART, in New-York, sell it for \$1.50 per hogshead. Give each standard tree from half a peck to half a bushel, according to its size and age; that is, including those with trunks from two to twelve inches in diameter. *A. R. P.*, (Long-Island.) Your trees want lime. Half a bushel to every tree in your orchard will not be too much. Spread it evenly over the surface as far as the trees extend.

INSECTS.—*J. Watson*. If you wash your grape-vines before the buds start with a mixture of soft-soap and sulphur, (2 lbs. sulphur to 4 quarts soap,) filling every crevice, especially around the buds, with a brush, it will destroy the eggs of the insects laid in the bark. *Querist*, (Baltimore.) We repeat our advice to destroy all insects in soil of the kitchen garden, by a liberal top-dressing of salt, before working the ground. Eight bushels to the acre is not too much; and it kills the grubs and benefits vegetation.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society was held in the Chinese Saloon on Tuesday evening, March 19, 1850. The President in the chair.

The display on the occasion was very fine; the most striking feature in which, was a superb bed of strawberry plants, growing in pots, and in full bearing, exhibited by Ben Daniels, gardener to Caleb Cope, the President, consisting of the following varieties: Hovey's Seedling, British Queen, Buist's Early May, Keene's Seedling, Sciota and Cushing, from whom we learn that the British Queen variety, although a staminate kind, exhibits in flavor and prolificness a decided superiority over the others, and can be strongly recommended for forcing. Hovey's Seedling, Buist's Early May, and Keene's Seedling, are all good for forcing. The Burr's New Pine was tried, but did not succeed well. From the same source were two varieties of grapes,—the White Frontignan and Muscat blanc native. In flowering plants, the exhibition was excellent. From the President's houses were some of his choicest Azaleas, Rhododendrons and Camellias. From Miss Gratz's, a rich display of Double Stocks, Roses, Fuchsias, etc. By Benjamin Gullis, a large collection; and by John Sherwood's foreman, a beautiful table. James Ritchie presented cut Camellia flowers, choice varieties; most of which, seedlings of merit. The vegetables were in good variety—many of them forced; new potatoes, asparagus, mushrooms, radishes and turnips.

Premiums were awarded as follows:

By the committee on plants and flowers. Rhododendrons—for the best specimen in a pot, to Ben Daniels, gardener to C. Cope. Azaleas—for the best three named varieties; hot-house plants—for the best grown and finest flowered three named varieties, each to Ben Daniels. Plants in pots—for the best and most interesting collection, to Benj. Gullis; for the second best, to Patrick Gallagher; for the third best, to Ben Daniels. Design of cut flowers—for the best, to Ben Daniels; for the second best, to Patrick Gallagher. For the best bouquet, suitable for the hand, to Patrick Burk. Basket, formed of cut flowers—to Ben Daniels; for the second best, to Wm. Hall. And a special premium of three dollars, to James Ritchie, for a beautiful display of seedling Camellia flowers.

By the committee on fruits. Apples—for the best five named varieties, three specimens of each, to John Perkins. They also awarded a special premium of ten dollars to Ben Daniels, for the magnificent display of strawberries, embracing several foreign and native varieties.

By the committee on vegetables. For the most interesting display, by a market gardener, to Anthony Felten; for the second best, to A. L. Felten; for the best, by an amateur gardener, to Ben Daniels.

Mr. Shields, late Charge d'Affairs to Venezuela, presented

the society two entirely new vegetables,—the *Mapesy* and *Apio*. On motion,

Ordered, That the thanks of the society be tendered to Mr. Shields, for a gift so acceptable.

The following gentlemen were elected honorary members of the society: The Duke of Devonshire, President of the Horticultural Society of London, Eng., and Professor James J. Mages.

OBJECTS SHOWN.—*Plants.*—By Ben Daniels, gardener to Caleb Cope, *Eranthemum coccineum*, believed to be shown for the first time; a desirable plant. *Rhododendron arboreum splendens*, *Azalea Cunninghamii*, *A. variegata*, *A. purpurea*, *A. alba*, *Camellia myrtifolia*, *C. Princess Royal*, *Franciscea latifolia*, *Wigela rosea*, *Euphorbia splendens*, *Oncidium flexuosum*, *Bernadesia rosea*, *Bilbergia iberidifolia*, *Cineraria* and *Primula sinensis*.

By Patrick Gallagher, gardener to Miss Gratz, *Lantana Douglasii*, *Melanthium majus*, *Begonia* sp., *Fuchsia rosea*, *Azalea splendens*, *A. variegata*, *Saxifraga grandiflora*, *Richardia thiopica*, *Cineraria King*, *Purpurea* and *Beauty*, *Rosa de la Reine*, *Hermosa*, *Bosquet* and *Paul Jones*, *Ageratum grandiflorum*, *Lobelia*, *Petunia*, etc.

By Benjamin Gullis, A beautiful collection.

By Wm. Burnley, *Spirea prunifolia*, *Begonia manicata*, *B. sp.*, *Erica* sp., *Cuphea* sp., *Polygala oppositifolia*.

Designs and Bouquets.—By Ben Daniels, a handsome moss vase of flowers, and a beautiful basket.

By Wm. Hall, a handsome basket of cut flowers.

By P. Gallagher, a cone bouquet. By P. Burke, a hand bouquet.

Fruit.—By Ben Daniels, gardener to Caleb Cope, strawberries,—a fine bed in pots of varieties,—Hovey's Seedling, British Queen, Buist's Early May, Sciota, Keene's Seedling and Cushing. Also two bunches White Frontignan, and Muscat blanc hative grapes.

By John Perkins, apples, five varieties.

Vegetables.—By Anthony Felten, Cauliflowers, Broccoli, Butter Lettuce, Scarlet Radishes, Turnips, yellow and white do., French, Long, and Turnip Beets, Salsify, Parsnips, Drumhead, Red, Dutch and Savoy Cabbage, Potato Arichoke, Curled Kale, Black Winter Radishes, Kohlrabi, Parsley and mint.

By Ben Daniels, from Spring Brook, country seat of C. Cope, new Potatoes, Mushrooms, Lettuce, Rhubarb, Sea-kale, Kidney Beans, Brussels Sprouts, Cabbage, Beets, Carrots, Radishes and Parsley.

By A. L. Felten, Asparagus, Rhubarb, White Turnip, Red Turnip, Long Radishes, Parsley and Chives.

Adjourned.

THO. P. JAMES,
Rec. Secretary.

Horticulturist

JOURNAL OF RURAL ART AND RURAL TASTE.

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"IF ANY MAN FEELS NO JOY IN THE SPRING, then has he no warm blood in his veins!"

So said one of the old dramatists, two hundred years ago; and so we repeat his very words in this month of May, eighteen hundred and fifty. Not to feel the sweet influences of this young and creative season, is indeed like being blind to the dewy brightness of the rainbow, or deaf to the rich music of the mocking bird. Why, everything feels it; the gushing, noisy brook; the full-throated robin; the swallows, circling and sailing through the air. Even the old rocks smile, and look less hard and stony; or, at least, try to, by the help of the moss, lately grown green in the rain and sunshine of April. And, as LOWELL has so finely said,

Every clod feels a stir of might,
An instinct within it that reaches and towers;
And, grasping blindly above it for light,
Climbs to a soul in grass and flowers.

From the time when the maple hangs out its little tufts of ruddy threads on the wood-side, or the first crocus astonishes us with its audacity in embroidering the ground with gold almost before the snow has left it, till June flings us her first garlands of roses to tell us that summer is at hand, all is excitement in the country—real poetic excitement—some spark of which, even the duller souls that follow the oxen, must feel.

"No matter how barren the past may have been,
'Tis enough for us now that the leaves are green."

And you, most sober and practical of men, as you stand in your orchard and see the fruit trees all decked in spring robes of white and pink and blush, and immediately set about divining what a noble crop you will have, "if nothing happens"—meaning, thereby, if everything happens, as nature for the most part makes it happen—you, too, are a little of a poet in spite of yourself. You imagine—you hope—you believe—and, from that delicate gossamer fabric of peach blossoms, you conjure out of the future, bushels of downy, ripe, ruddy, and palpable, though melting rareripes, every one of which is such as was never seen but at prize exhibitions, when gold medals bring out horticultural prodigies. If this is not being a poet—a practical one, if you please, but still a poet—then are there no gay colours in peacock's tails.

And as for our lady readers in the country, who hang over the sweet firstlings of the flowers that the spring gives us, with as fresh and as pure a delight every year as if the world (and violets) were just new born, and had not been convulsed, battered and torn by earthquakes, wars, and revolutions, for more than six thousand years;—why, we need not waste time in proving

them to be poets, and their lives,—or, at least, all that part of them passed in delicious rambles in the woods, or sweet toils in the garden,—pure poetry. However stupid the rest of creation may be, they, at least, see and understand that those early gifts of the year, yes, and the very spring itself, are types of fairer and better things. They, at least, feel that this wonderful resurrection of life and beauty out of the death-sleep of winter, has a meaning in it that should bring glad tears into our eyes,—being, as it is, a foreshadowing of that transformation and awakening of us all in the spiritual spring of another and a higher life.

The flowers of spring are not so gay and gorgeous as those of summer and autumn. Excepting those flaunting gentlemen-ushers—the Dutch Tulips—(which, indeed, have been coaxed into gay liveries since MYNHEER fell sick of flori-mania,) the spring blossoms are delicate, modest, and subdued in colour, and with something more of freshness and vivacity about them than is common in the Lilies, Roses, and Dahlias of a later and hotter time of the year. The fact, that the *Violet* blooms in the spring, is of itself enough to make the season dear to us. We do not now mean the Pansy, or three-coloured violet—the “Johnny-jump-up” of the cottager—that little roguish coquette of a blossom, all animation and boldness—but the true violet of the poets; the delicate, modest, retiring violet, dim—

“But sweeter than the lids of Juno’s eyes,
Or Cytherea’s breath.”

The flower that has been loved, and praised, and petted, and cultivated, at least three thousand years, and is not in the least spoiled by it; nay, has all the unmistakable freshness still, of a nature ever young and eternal.

There is a great deal, too, in the associa-

tions that cluster about spring flowers. Take that early yellow flower, popularly known as “Butter and Eggs,” and the most common bulb in all our gardens, though introduced from abroad. It is not handsome, certainly, though one always welcomes its hardy face with pleasure; but when we know that it suggested that fine passage to SHAKESPEARE—

“Daffodils

That come before the swallow dares, and take
The winds of March with beauty”——

we feel that the flower is forever immortalized; and though not half so handsome as our native Blood-root, with its snowy petals, or our wood Anemone, tinged like the first blush of morning, yet still the Daffodil, embalmed by poesy, like a fly in amber, has a value given it by human genius that causes it to stir the imagination more than the most faultless and sculpture-like Camellia that ever bloomed in marble conservatory.

A pleasant task it would be to linger over the spring flowers, taking them up one by one, and inhaling all their fragrance and poetry, leisurely,—whether the cowslips, hyacinths, daisies and hawthorns of the garden, or the honeysuckles, trilliums, wild moccasins, and liverworts of the woods. But we should grow garrulous on the subject and the season, if we were to wander thus into details.

Among all the flowers of spring, there are, however, few that surpass in delicacy, freshness and beauty, that common and popular thing, an *apple blossom*. Certainly, no one would plant an apple-tree in his park or pleasure ground; for, like a hard day-laborer, it has a bent and bowed-down look in its head and branches, that ill accords with the graceful bending of the elm, or the well-rounded curve of the maple. But as the day-laborer has a soul, which at one time or another must blossom in all its

beauty, so too has the apple-tree a flower that challenges the world to surpass it, whether for the delicacy with which the white and red are blended—as upon the cheek of fairest maiden of sixteen—or the wild grace and symmetry of its cinquefoil petals, or the harmony of its colouring heightened by the tender verdure of the bursting leaves that surround it. We only mention this, to show what a wealth of beauty there is in common and familiar objects in the country; and if any of our town readers are so unfortunate as never to have seen an apple orchard in full bloom, then have they lost one of the fairest sights that the month of April has in her kaleidoscope.

Spring, in this country, is not the tedious jade that she is in England,—keeping one waiting from February till June, while she makes her toilet, and fairly puts her foot on the daisy spangled turf. For the most part, she comes to us with a quick bound; and, to make amends for being late, she showers down such a wealth of blossoms that our gardens and orchards, at the end of April, look as if they were turned into fairy parterres, so loaded are they,—and especially the fruit trees,—with beauty and promise. An American spring may be said to commence fairly with the blossom of the apricot or the elm tree, and end with the ripening of the first strawberries.

To end with *strawberries*! What a finale to one's life. More sanguinary, perhaps, (as there is a stain left on one's fingers sometimes,) but not less delicious than to

"Die of a rose in aromatic pain."

But it is a fitting close to such a beautiful season to end with such a fruit as this. We believe, indeed, that strawberries, if the truth could be known, are the most popular of fruits. People always affect to

prefer the peach, or the orange, or perhaps the pear; but this is only because these stand well in the world—are much talked of—and can give "the most respectable references." But take our word for it, if the secret preference, the concealed passion, of every lover of fruit could be got at, without the formality of a public trial, the strawberry would be found out to be the little betrayer of hearts. Was not LINNÆUS cured of the gout by them? And did not even that hard-hearted monster, RICHARD the III, beseech "My LORD OF ELY" to send for some of "the good strawberries" from his garden at Holborn? Nay, an Italian poet has written a whole poem, of nine hundred lines or more, entirely upon strawberries. "Strawberries and sugar" are to him what "sack and sugar" was to FALSTAFF,—“the indispensable companion—the sovereign remedy for all evil—the climax of good.” In short, he can do no more in wishing a couple of new married friends of his, the completest earthly happiness, than to say—

"E a dire che ogni cosa lieta vada,
Su le Fragole il zucchero le cada."

In short, to sum up all that earth can prize,
May they have sugar to their strawberries!

There are few writers who have treated of the spring and its influences more fittingly than some of the English essayists; for the English have the key to the poetry of rural life. Indeed, we cannot perhaps give our readers greater pleasure than by ending this article with the following extract from one of the papers of that genial and kindly writer, LEIGH HUNT:

"The lightest thoughts have their roots in gravity; and the most fugitive colours of the world are set off by the mighty background of eternity. One of the greatest pleasures of so light and airy a thing as the vernal season, arises from the conscious-

ness that the world is young again; that the spring has come round; that we shall not all cease, and be no world. Nature has begun again, and not begun for nothing. One fancies somehow that she could not have the heart to put a stop to us in April or May. She may pluck away a poor little life here and there; nay, many blossoms of youth,—but not all,—not the whole garden of life. She prunes, but does not destroy. If she did,—if she were in the mind to have done with us,—to look upon us as a sort of experiment not worth going on with, as a set of ungenial and obstinate compounds, which refused to co-operate in her sweet designs, and could not be made to answer in the working,—depend upon it, she would take pity on our incapability and bad humours, and conveniently quash us in some dismal, sullen winter's day, just at the natural dying of the year, most likely in November; for Christmas is a sort of spring itself—a winter flowering. We care nothing for arguments about storms, earthquakes, or other apparently unseasonable interruptions of our pleasures. We imitate, in that respect, the magnanimous indifference, or what appears to be such of the great mother herself, knowing that she means us the best in the *gross*; and also that we may all get our remedies for these evils in time, if we will only co-operate. People in South America, for instance, may learn from experience, and *build* so as to make a comparative nothing of those rockings of the ground. It is of the *gross* itself that we speak; and sure we are, that with an eye to *that*, Nature does not feel as POPE ventures to say she does, or sees “with *equal* eye”—

“Atoms or systems into ruin hurl’d,
And now a bubble burst, and now a world ”

“He may have flattered himself that he should think it a fine thing for his little

poetship to sit upon a star, and look grand in his own eyes, from an eye so very dispassionate; but Nature, who is the author of passion, and joy, and sorrow, does not look upon animate and inanimate, depend upon it, with the same want of sympathy. “A world” full of hopes, and loves, and endeavors, and of her own life and loveliness, is a far greater thing in her eyes, rest assured, than a “bubble;” and, *à fortiori*, many worlds, or a “system,” far greater than the “atom,” talked of with so much complacency by this divine little whipper-snapper. *Ergo*, the moment the kind mother gives promise of a renewed year, with these green and budding signals, be certain she is not going to falsify them; and that being sure of April, we are sure as far as November. As for an existence any further, that, we conceive, depends somewhat upon how we behave ourselves; and therefore we would exhort everybody to do their best for the earth, and all that is upon it, in order that it and they may be thought worth continuance.

“What! Shall we be put into a beautiful garden, and turn up our noses at it, and call it a “vale of tears,” and all sorts of bad names (helping thereby to make it so,) and yet confidently reckon that nature will never shut it up, and have done with it, or set about forming a better stock of inhabitants? Recollect, we beseech you, dear “Lord Worldly Wiseman,” and you, “Sir Having,” and my “Lady Greedy,” that there is reason for supposing that man was not always an inhabitant of this very fashionable world, and somewhat larger globe; and that perhaps the chief occupant before him was only an inferior species to ourselves (odd as you may think it,) who could not be brought to know what a beautiful place he lived in, and so had a different chance given him in a different shape.

Good heavens! If there were none but *mere* ladies and gentlemen, and city-men, and soldiers, upon earth, and no poets, readers, and milk-maids, to remind us that there is such a thing as Nature, we really should begin to tremble for Almacks and Change Alley, (the "upper ten" and Wall-street,) about the 20th of next October."

FRUIT CULTURE AT THE SOUTH.

BY DR. PHILIPS, EDWARDS, MISS.

A. J. DOWNING, Esq.—Upon 356 page, your correspondent "JEFFREYS," in his review—"New Fruits of South Carolina," says, it is his opinion "that every climate must grow *indigenously* its own *best* fruits for ordinary culture." To all this I make no objection. "JEFFREYS" has the clear right to think, and to so express it. Nor do I object to his advising "our southern friends" to propagate seedlings. Yet I object to their doing it. I have no doubt but what in time to come, the south will be able to grow fruit of each kind, fully equal to the state of New-York; and that some of these fruits have yet to be produced from seed in the south.

The objection I make is this: There are already quite enough people here, who ridicule all attempts to grow the fruit known at the north and elsewhere as being choice, on the ground that they are not suited to the south. If prejudice was removed instead of being fostered, we would soon be able to test the known varieties, and be enabled to adopt all that we need which are worthy. How long shall we of the south have to rely upon second rate, or inferior fruit, until we do have these said indigenous kinds? How many kinds of seedlings were grown at Pomaria, the seat of our SUMMER friend, or where those fruits were originally from, to procure these good fruits? But again, there should be more distinct advice given; or, I might say, we

should know what can be done, and then advise.

I do not mean to fault-find. No, sir, mean just what I say; the people of the south are already too much prejudiced to purchase, plant and cultivate even those that can be proved to be superior to any that are natives.

We have already quite enough of varieties of the peach, apple and pear, that are equal to the best for certain portions of the year. I will be more minute in part. My knowledge prevents going into names of all.

As to peaches, the northern and foreign varieties are as early as any we have yet produced; only one or two exceptions that I know of.

I name Early Tillotson, Early York (serate leaf,) George the Fourth, Hoffman's Favorite, Crawford's Early Melocoton, Poll's Melocoton, Early Red Rareri, Bellegarch, Prince's Paragon, Oldmixon Cling, N. Y. White Cling, Buist's Yellow, Redcheek Melocoton, Brevoort's Morris, Bergen's Yellow, Crawford's Late Melocoton, Druid Hill, Monstrous Parie, Smock Late.

These varieties were principally obtained from the Hudson, and ripen in lat. 32°, (12 or 14 miles nearly east of Vicksburg,) from about 20th of June to Sept. 1st. Here are nineteen fruits, ripening in, say 75 days; and if there are indigenous peaches, from Mason and Dixon's line to the Rio Grande, ripening in succession superior to those, I

will give 100 dollars for them; that is, for a tree of each sort ripening at said time.

I am a native of the south. I love it too well to detract from her one iota. I have been conversant with fruits the most of my life. My father was very fond of such things, and had a good orchard (for a poor man) 30 and odd years ago; and if there be a single peach to excel Early Tillotson, or Early York (true,) or Crawford's Early, and some others, that are natives, I never saw them. We need peaches ripening in September and October, and we must strive to grow them, or to collect them. I am aware that there are many who decry even these fruits. I can only say, they are grown on this place and on many others in this state. I also know, that pruning and cultivation may make some difference, and that indigenous may possibly do better under the cow and horse pruning operation, and when planted on poor land, there to live or die.

Now as to apples, I dare not call names; for my trees have been purchased from so many sources, and no certainty as to names, that I might call the name of "Summer Queen," and it would be "Early Harvest." Enough, however, be it to say, we can grow apples now known in New-York from June 15th or 20th until, say 1st of Nov.; and then can keep some of them until January at least. I say this much, because I have had as good apples, of their kind, as can be shown in New-York for summer and fall. We then need winter apples.

As to pears, so few have yet fruited in this state that I cannot say much of them. I have heard several friends, who were northerners born, declare that our summer pears were better than the same at the north. And from the Bartlett, Duchess d'Angouleme, and a few others that I have

seen, I can only say they are good enough for me.

I have grown and fruited at least 1500 seedling peach trees, out of which I have selected *two varieties*. This is enough to recommend us of the south to grow seedling peaches. The Elmira, ripening a few days earlier than Early Tillotson, is a very beautiful clingstone peach, will measure 8 inches in circumference. It is good; but nothing like the delicacy of the Early Tillotson. It is so large and beautiful that everybody admires it; and it is good.

Skinner's Superb, ripening August 1, or about that date, is a 9 to 10 inch, freestone, yellow peach; and, with the exception of Magruder, a seedling of Madison co., Miss., also yellow, and ripening in June. It is the only seedling I ever saw that would compare with Crawford's, Poll's, Buist's, and other No. 1 yellow peaches of the north.

I have seen quite as many peaches in the south as most persons. I have travelled about a good deal, and did for a time make physic my business, and had some opportunity to see other folks' orchards.

I have now about 2000 or 2500 peach trees, that ought to bear this year; and if out of 150 varieties there is a tree that should be "cut down and cast into the fire," it is some of our very choice natives, that were recommended to me by *good judges*. If I live ten years, I hope—not "solitary and alone" in this cause—to do much in aid of developing our resources, and I trust that my friend from Pomaria may do more; but he cannot, if he discards all foreign fruits. I will take some 20 to 40 varieties and dare the world to beat them *now*. Judging fruit is a matter that requires education as much as any other one thing. And I have no more idea of relying upon the judgment of even one in a hundred,

than I should try to fly, if they told me I could. How can your eater of "hog peaches" know what an Early York is? He must test the fine varieties first. I would like to know how many men in Mississippi, or even in South Carolina, can judge between an Apricot, or a Green Gage, and the Chickasaw plum?

I was told fifteen years ago it was folly to try apples; "they had been tried." I

have shown Baldwin apples long after frost as good as any body could. A friend from Indiana, "*a traveller*," saw them here. He pronounced them good. Of course, "summer apples will grow, and fall apples may;" "but winter apples will not." Wait awhile, until my Male Carle, Northern Spy and others bear, and then we will see. Yours with respect.

M. W. PHILIPS.

Edwards, Miss., February, 1850.

CRITIQUE ON THE MARCH HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

How to lay out a Country Place.—This article is timely, and much needed. Grounds for a residence require a front, sides, and a rear, as much as the house which is to occupy them; and the why and wherefore should be as freely discussed. I propose to leave this subject, over which you are so accomplished a master, altogether to yourself; and I hope you will not dispose of it until it is made—even to the newest beginner—"as plain as the nose on his face."

The Process of Wine-making in Ohio.—It is more than refreshing, amidst the twaddle of so many pretenders in our day, to find a man of the right down blunt, practical sense of NICHOLAS LONGWORTH. Why, a single page of his experience is worth a volume of the theoretical gossip we almost daily meet,—(not often in your pages, however,) a cogent illustration of "the blind leading the blind."

Stray Notes, &c.—Feeding Trees.—Certainly. A tree loves to be fed as well as a pig. If you don't believe it, just conduct your sink spout to the roots of some of your scurfy, mossy, half starved trees, and

if you don't soon see the difference, we'll inquire the reason why.

Mr. Hooker's Notes.—Most instructive. I wish he would continue them. How can we ever excel at home, unless we know some little of what the world is doing abroad? As to the agricultural school, our masters at Albany have got the thing in hand; and I hope—for I have not as yet full confidence in what they will do—some good will come out of it.

Experiments in Horticulture.—Well, if we have got to come to this process of thumping the trees, and catching the curculios in our fingers, be it so. But for my part, I shall exhaust every other mode heard of, before I apply it. Why, only think of it; a man like myself, not quite so big as Sir JOHN FALSTAFF, bobbing and squatting round among two or three hundred plum trees every day in the week, and that before sunrise in the morning,—the only time of day when the little rascals are torpid,—nabbing curculios! I sadly fear, as with my ancient friend, the sequel would prove—"the more flesh, the more frailty." Let others try this method, if they like; but be-

fore I resort to it, I shall try the pig and chicken cure, to the last extremity. [In the mean time, those who do will eat the apricots. Ed.]

The Fredrica Bremer Pear.—A delightful name, let the fruit be as it may. Before this is seen in print, Mr. Hastings will be deluged with "orders" for more grafts of the new pear than the tree has twigs upon it. Wait a little, gentlemen. Since the first volume of the Horticulturist has appeared, twenty or thirty "first rate new American pears" have been figured and described in its pages. And most fortunate it is that we have such a paradise for pear culture this side the Atlantic. Let them all be tried, by those who have a curiosity, and we shall in time find out what are *really* valuable. Meantime, let us keep to the good old sorts,—those we have wintered and summered,—and not run into everything new, for the reason only that it is new, and *promises* well. When the Bartlet, the Grey and White Virgalieus, and the Seckels, are fairly beat in their flavor, and the Bloodgood, the Stevens' Genesee, the Louise Bonne of Jersey, the Beurre d'Aremberg, and Winter Nelis, in their bearing and popularity, we pomologists will hold another convention, and enact a "New Code of Procedure."

Flowers for the Million, from CREAM Hill.—That is right, for there is a million of them; the flowers, I mean. Yet, although I love the flowers, and want all the millions of people to cultivate and enjoy them, it is not the flowers but the "*Cream*" hill I intend to talk about. Somebody has said, and wrote it, too—who 'tis, no matter now—that man is an imitative animal. To any one conversant with American names of places, there can be no manner of doubt that *we* are of the *genus* Imitati—thorough. Good Mrs. PRIMROSE bestowed

not her romantic name of OLIVIA upon her darling daughter with more delicious unction, than do our modern country residents impart the *new* and *unfrequent* names of "Strawberry," "Cherry," and "Primrose" hills to their own choice paradises. And "Amblesides," and "Sunnysides," and "Inglesides," and all the other sides, which occur in the story books, with a thousand more euphaneous and novelistic names, are scattered in beautiful *profusion* and *confusion* all over the country. Nor does it become me to say that it is not all very well; but when we contrast these hacknied, lackadaisical terms with the strong old Saxon names, which our sturdy English ancestors gave to their country establishments, it really looks as if we were spinning the subject into the finest possible quantity.

A fashionable friend—gone, alas, poor fellow—once invited me to spend a day or two at his new villa of "Rose-mount." Beautiful, thought I! amid the odor of a thousand "queens of flowers," and in all their gorgeous array of colour and variety; how charming! Away I went, and in the height of the "season of roses," full of delightful anticipation. I came to what I was told was the residence of my friend, but could scarcely believe it; not a "mount," but a valley, enclosed by gentle hills, a rippling brook fringed with alders between, and a very pretty plain stretching away in the distance, and hardly a "rose," either planted or in bloom, about the grounds. Queer, queer, thought I to myself; and this is "Rose-mount!" Why, if he had called it "Alderbrook," 'twould have been a little like; and his "roses," by such a name, would have smelled "just as sweet." And so with a thousand others,—names as befitting to their places as the aforesaid Rose-mount. I have known "Hazlewoods," which bore nothing but pine trees and

huckleberries; "Hawthorndales," on high hills, sprinkled only by a few scurvy poplars, looking as bleak and bare as the naked swamps in the distance; and "Locust-ar-bors," where old stone walls and briar patches held the chief claims to distinction.

But I'll not pursue the subject now. The drift of my meaning is, by this time, quite apparent. Let there be a fitness of things in naming our homes. If our new friend rejoices in a fine dairy, redolent of aromatic grasses, of rich milk and delicious butter, his place is rightly named; or if "a dish of ripe strawberries, smothered in CREAM," be a distinguishing mark of his hospitality in their season, his cognomen is most appropriate, though I cannot say poetic. With the thousand and one beautiful Indian names which are fast dying away in our country, and only now and then revived by the pious recollection of their despoilers, how many charming spots could be designated—rare, euphaneous, and beautiful in name! pregnant, too, with poetic meaning! But I have said enough.

Let us look to these things. I mean no possible disrespect to your correspondent. I found a text for my subject, and have used it. I beg his pardon.

Design for a Country House, (with a plan in the frontispiece.)—Well, an' you *will* draw houses—I suppose we must e'en talk about them. I like this elevation and perspective much. Amushroom amateur, about building a new suburban house, said to me the other day, when telling what a nice affair he was going to have, "the architect says the *prospective view* is first rate!" "No doubt of it," I replied; "and I hope you have got a grand *Portorico* attached to it." "To be sure I have; and the cellar kitchen is just the convenientest thing you ever did see." "But do you intend to have

a cellar kitchen?" "Why, *serting*. Upper kitchens, you know, are all gone out of fashion, and jinteel folks don't have them at all now-a-days; they're *quite* old fashioned." (I happened to know this man was *raised* in a kitchen—the only room in his father's house—and therefore presumed he wanted to get the appendage as far out of sight and mind as possible.) "Where ignorance is bliss, 'tis folly to be wise," thought I, and passed on. A fair specimen of *some* people and their houses in "this age of improvement."

But to your house in the *Horticulturist*, which you say may be either a "substantial farm or country house;" and such it appears. But for either purpose, just turn that kitchen, scullery, pantry, and dairy out of the main body, and stow them away in a roomy and appropriate wing, to be built on to the rear, leading off towards the stables and kitchen garden. [Quite right, but that will make the house cost \$500 more; and this was intended as an economical arrangement.—ED.] Such things have no business on the floor of a house proper, of this character. Let their present place be occupied by a good bed-room or nursery, for that is indispensable—children, I believe, are generally born and brought up in houses—two, at least, roomy closets, or pantries, or a dining-room, or library, with a side *entry*, or subordinate hall, if needed, and they are frequently very handy. Then, it is a first rate house of the kind, in all respects. Nor do I like that bay window on *such* a house. It looks too much like a sentry-box, stuck on to the side. Were the building in a different style of architecture it would be appropriate. As it is, a plain window would look better, *I* think. Yet the outside design is good, substantial, in capital taste, and placed in the right position, beautiful. Let such

structures as these be sprinkled over the country, instead of the frost-work things two often exhibited, and we may be "somebody" in good time.

Gardening in California.—If a cargo of good market gardeners were to emigrate to California, I have no doubt they would make fortunes there more surely, if not more rapidly, than the gold diggers. I long to hear some *true* account of the agricultural capacity of that country.

A Statesman Cultivator.—Why, sir, you talk as though a statesman should not be a man of taste and accomplishments in pomology, or agriculture as well! Where will you find greater or more refined accomplishment, next to those necessary requirements of a statesman in his proper calling, than as a cultivator of the soil, a pomologist, or a florist? I do really hope the time is soon to come when a man whom his neighbors think fit to send to the state legislature, or to congress, will not be ashamed to acknowledge that he is a farmer or a gardener. A plague upon these conventional follies! GEORGE WASHINGTON was once a surveyor; ROGER SHERMAN, a shoemaker; BENJAMIN FRANKLIN, a printer; ISRAEL PUTNAM, a farmer, always; and General GREENE, a blacksmith, by trade; but now-a-days every member of congress,

or of the legislature, must be a member of some *learned*(?) profession; or if too idle to get a living by doing something, and able to live without, must, in his paltry pride, dub himself "gentleman!" Out upon such nonsense. I hope ere long to see the day when it is not the profession, the trade, or the calling which exalts the man, but the man himself, in the full exercise of his own moral powers, that will give honor to his vocation.

Cincinnati Hort. Society.—The Cincinnatians will have an opportunity next fall to show themselves, and their horticulture and their agriculture to-boot, and, no doubt, creditably. There is a liberality in their premiums, and a toleration in their offers of competition that must excite a large, varied, and rare display. I hope our leading eastern pomologists and florists will go there, if only to extend to them the right hand of fellowship, and show that they fraternize in their noble occupation; but much more, to learn of them what is most current in the great Ohio valley, and bring away what spoils they may that will be to their advantage. Great good must grow out of these festivals. They are among the cementing material that is to bind us more closely together in the strong brotherhood of nations.

JEFFREYS.

HINTS FOR RAISING SEEDLING PEARS.

BY THE PRESIDENT OF THE MASSACHUSETTS HORT. SOCIETY, BOSTON.

How to raise new and valuable varieties of pears, and indeed any of the larger fruits from seed, is but partially understood, notwithstanding KNIGHT, VAN MONS and others have written so much as to have apparently exhausted the subject. Still, much information on the raising of new fruits may be

obtained, if it is discussed by our *working* and *thinking* cultivators.

The desire to elicit information from others, rather than express my own views, on a subject which is so much better understood by yourself, Mr. Editor, and by many of your readers than by myself, has induced

me briefly to present an outline of the matter, and leave it with you and your "old diggers," to finish the ground work, if the idea should be considered worthy of a second thought.

Now, sir, "to begin at the beginning," let us devise the best method to produce seeds from which to raise new *pears*, equal or better than the present best summer, autumn and winter varieties. To accomplish this, with a prospect of good success, I would suggest that it can probably be better done with seed raised from six kinds (two summer, two autumn, and two winter varieties,) than from seed fertilized by a greater number, although all the kinds should be equally good as the trees selected for the summer, autumn and winter varieties; for, be it borne in mind, that no country has probably produced so many good varieties of the *pear*, from seed, in proportion to the number of seedlings which have fruited, as the United States; from the fact, in my opinion, that the impregnation of the seed has to be accomplished by having only two *good varieties* growing side by side of each other, and, in some instances, from seed of one good kind, without its having been fertilized by any other variety,—the tree being cultivated far away from any other pear tree.

Upon this hypothesis, I will suppose that the following pears, viz:

- The Seckel is the offspring of the Rousselet de Rheims; the parent being grown alone, or out of the influence of any other variety.
- The Petre is the offspring, probably, of the White Doyenné and the Brown Beurré.
- The Dix, from the White Doyenné and the Saint Germain.
- The Heathcote, from the White Doyenné.
- The Bloodgood, from Citron des Carmes and White Doyenné.
- The Pennsylvania, from White Doyenné and Mes-sire Jean.
- The Haddington, from White Doyenné and Black Worcester, or Woodall's St. Germain.
- The Ott, White Doyenné and Seckel.

If the above suppositions are correct, the

next inquiry is, how shall seed be obtained from which to raise the best summer, autumn and winter varieties of the pear, with the greatest prospect of success? To state my views still further, I will suggest that the following varieties be made use of, for that purpose, viz:

- | | |
|------------------------------|---|
| No. 1. Bloodgood, | { To be grown side by side, to produce seed for <i>summer varieties</i> . |
| " 2. William's Bon Chretien, | |
| No. 3. Seckel, | { To be grown side by side, to produce seed for <i>autumn varieties</i> . |
| " 4. Louise Bonne de Jersey, | |
| No. 5. Dix, | { To be grown side by side, to produce seed for <i>winter varieties</i> . |
| " 6. Beurre d'Arenberg, | |

The trees to be grown in three different locations, at least one-fourth of a mile apart, and out of the influence of any other pear trees.

The seeds of all the varieties should be taken from the fruit when fully ripe, kept separately, and labelled as follows, viz:

- No. 1. Bloodgood, fertilized by William's Bon Chretien.
- " 2. William's Bon Chretien, fertilized by Bloodgood.
- " 3. Seckel, fertilized by Louise Bonne de Jersey.
- " 4. Louise Bonne de Jersey, fertilized by Seckel.
- " 5. Dix, fertilized by Beurre d'Arenberg.
- " 6. Beurre d'Arenberg, fertilized by Dix.

Seeds thus raised and carefully labelled, I think, would command a good price. I would rather give five dollars for a paper of one hundred pear seeds fertilized as above, to raise seedling pears from, than I would pay one dollar for a bushel of seeds, collected indiscriminately.

What say you, Mr. Editor; is this subject worthy of reflection, and a trial? or should we plod along with the slow process of commencing with choke-pears and the sour crabs, on the system of VAN MONS?

Yours very truly. SAMUEL WALKER.

Roxbury, Mass., March 15, 1850.

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[We have already expressed our dissatisfaction with VAN MONS' method, which, as we believe, gives good fruit, but *feeble constitutions*; so that for all purposes of profitable culture, many of his best varieties are worthless.

Mr. WALKER is undoubtedly correct, that

our fine American pears are accidental seedlings; sometimes the result of the effects of a new soil and climate on the progeny of an old variety; sometimes the result of a cross, effected by proximity of a couple of good sorts. And there is no doubt that the mode he suggests would produce fine varieties.

We understand Mr. WALKER, however, to suggest this as an easy mode for popular use; for the use of those, in short, who will not set about the matter in a more scientific

way. To the latter, our correspondent and ourselves would agree in recommending the careful *crossing* of the hardiest and best of the old sorts to produce new ones. Every physiologist is aware that this is as easily done in the vegetable as in the animal kingdom; and yet, though many flowers have been raised, we do not know of a single fruit that has been originated directly in this way in the United States,—saving only Dr. BRINCKLE's raspberries and strawberries. Ed.]

A FEW WORDS TO BEGINNERS.

BY HENRY W. BEECHER, BROOKLYN, N. Y.

It is a long time since we have had the pleasure of seeing anything on our favorite topics from Mr. BEECHER's pen, which was wont to delight and instruct us in the pages of the *Western Farmer and Gardener*. But here is an article, which we take from the columns of the *Independent*, full of pith, and in the old vein, which we gladly preserve in our pages. Ed.

Nothing more surely defeats an incipient taste for flower culture than a rash beginning. If one is pinched for room, or for money, they are in a very good way. They will have to begin moderately. A few flowers, finely grown, for a single season, will generally fix a person irrecoverably. But, however fine the taste and sincere the relish, if one begins their practical cultivation by crowding their garden with a multitude of different plants, requiring very diverse treatment, the result will be great expense, much labor and confusion; and after all the industry, it will be so divided as to avail but little for anything. When the season closes, the remembrance of the flower campaign will be a reminiscence of confusion, of starling plants, choked with weeds, pitiable blossoms, scrambling vines, poorly trained; seed lost, and roots not secured. And what between neglect, weeds,

insects, drouth, or floods of rain, and murderous frosts, the winter will find you bereaved of one-half of your dearly bought favorites.

The consequence will be that disgust will follow injudicious enthusiasm. Wise people who always despised such trifles, and wondered that people would waste time in a garden, will shake their heads, pat your cheeks, and say, "you see what comes of such nonsense." Wherefore, we beseech all beginners to take heed how they begin.

For their help, we will suggest a few considerations.

Begin with plants that require the least knowledge and care. Hardy perennials, vines—such are the Honeysuckle, the Glycine or Wistaria, Ivy, Trumpet Creeper, Clematis, &c.

Shrubs are also to be chosen before seeds; Roses, Syringas, Spireas, Tartarian honeysuckles, Snowballs, Rose-acacia, Altheas, &c.

The peculiar excellence of these plants is to be found, not alone in their continuous supply of brilliant flowers and foliage, but in the fact that they will *very nearly take care of themselves*. A little pruning, a spring dressing of manure, and an occasional stirring of the earth, will be all that is required of the possessor. This may be no special

inducement to persons of leisure or of fortune. But it is the indispensable condition of any floriculture among busy mothers, the laborious middle class, the industrious poor; and it is among these that we desire most to see the love and care of flowers spread.

If there is room for more than these, preference should, next, be given to perennial plants (either herbaceous or woody)—such as Pæonies (white, crimson, pink and yellow)—Chrysanthemums or Artemesias which two begin and end the season; and intermediate are pinks, lilies of the valley, the various irises, violets, yucca, lilies, &c. The next addition should be the hardy bulbs, the Tulip, the Hyacinth, the Crocus, the Gladiolus or sword-lily, the Tiger-flower, the Narcissus, the Tuberose, &c.

Then come the annual plants, to be sown yearly, of which we shall speak at another time.

We repeat, and with emphasis, do not be tempted, by the beauty and variety of flowers, to cultivate too many. Make it a duty to cultivate whatever you take in hand perfectly; and add nothing until you perceive that you can do it justice. We protest against floral spendthrifts, floral dissipation, and all flower-mongers. Let any one look about him, and he shall see such persons as these:

1. Ignorant buyers. They will bid off bushels of trash at flower auctions; they will be entrapped by sounding names in seed-stores, and made wild by pompous catalogues from florists and seedsmen. Nobody is so likely to be imposed upon as persons who affect to despise flowers. We have known a man who, laughing at wife and daughter, wiped his mouth of all love of flowers, who, nevertheless, at some unwatchful moment, comes into temptation in some spring sale. Now, says he, I will surprise my wife with a present worth having! And perhaps he secretly whispers to himself, I'll show them that I know something about buying flowers, if I do not about raising them. Once a going, he *does* buy; buys everything; buys worn-out roots, cast-away rose bushes, effete bulbs; dead vines, four-year old and three-year dead seeds of splendid names. Quite aroused by his luck, he sends for cart and barrow,

and to his wife's consternation begins to heap his trash into the yard and garden. Now for the sweet surprise. "Why, what is this?" "This? let me look at my memorandum; these are assorted Tulips; and these are Hyacinths, A No. 1, ma'am!" "What on earth do you expect to do with these bulbs at this time of the year? Why, they ought to have been in the ground last October—they ought to be nearly done blossoming by this time of year; and besides, see the musty bottoms—the things are dead and gone long ago! What did you get them for? how much did you give for them?" "Never mind, they cost but little—no great affair—I knew they were not much, but I thought something might come of them." "Well, now, as sure as I am alive, here you've brought a pack of cinnamon roses home, and I have had a man digging half a day to get the pests out of my garden! Do throw them right into the street. Look here, husband, here's snowballs, and waxberries, and mock-orange flowers, and lilacs; you *did*'nt buy this stuff, did you, husband? Our garden is full of them, and has been this ten years." "Stuff! I tell you it's no such thing. Why, here's what they are (reading from his memorandum,) they are the *Viburnum opulus*, and the *Symphoria racemosa*, and the *Philadelphus coronarius*, and *Syringa vulgaris*!" "Pshaw! you've paid away your money for a pretty parcel of Latin names! I don't care what you call them, they are nothing but our old-fashioned syringas, and lilacs, and snowballs, and waxberries!" Alas! out of some thirty dollars' worth of plants, roots and bulbs, the poor wife got half a dozen new plants, that she might have purchased of an honest florist for two dollars!

2. Who does not know *garden beggars*? Every spring they begin to feel the garden impulse. Out they run to see what they have left in their beds. A pitiable account their garden gives of their last season's care. Weeds choked out these; the drouth destroyed that; worms and bugs eat up one thing; dogs and pigs scratched or rooted out another thing; and the winter did the business for pretty much everything else. "Never mind; I know who's got more of them. Mrs. —, good soul, she's

given me plants every spring these five years!" So away she goes, begging roots here, bulbs there, a few seeds, a slip of this plant, a cutting of that, a root of another; and by night she has got a heterogeneous heap of thirty or forty kinds. They all go through the violence of being punched into the earth; take a gallon of water for their first drink; the one-half die in the act of transplanting, the other half linger

unthought of, and die at their leisure along the season; for the flower-monger, good soul, got over her paroxysm the first hot day that came sweating into the garden, and will trouble herself no more till the next vernal begging season returns.

We say, once more, in closing, do nothing that you do not do well. One good plant is worth a prairie full of starved and stunted things!

THE YELLOWS, CAUSED BY AN INSECT.

BY MISS MORRIS, GERMANTOWN, PA.

ALTHOUGH the various agricultural journals throughout our broad land, have teemed with articles on the disease called "The Yellows of the Peach Tree," I believe a small beetle, named in Harris' Catalogue *Tormicus liminaris*, has never, until lately, been suspected as the cause of that destructive malady.

I will not presume to say that it is the sole cause of the decline of the peach tree, for I am aware that unhealthy soil, late and hard frosts, the large borer, *Ægeria*, and too profuse bearing, will all injure the trees and cause death; but I believe the little *Tormicus* will be found to produce that disease, which is believed by many to be *infectious*.

Though the *Tormicus liminaris*, in its perfect state, has long been known to science, its habits in the grub or larvæ form are little known, and few have been led to search for them in the bark of the peach tree, where they may frequently be found in incredible numbers. They are so minute that only a close observer would see them; but, like the itch insect in the human family, they produce disease, and frequently death.

When a peach tree is infested with the *Tormicus liminaris* in sufficient numbers to

cause disease, the tree will throw out great numbers of sickly shoots in August and September; at this time the grubs may be found securely feeding in the sap vessels of the under bark of the tree, effectually protected from all external injury by the hard outer bark.

Too minute to attract attention, these little creatures do their work secretly and surely, uninjured by any of those applications that have so frequently been recommended; for however beneficial these nostrums may be in other diseases to which the peach tree is liable, they will be found of no avail in this; as any remedy sufficiently powerful to kill an insect so well defended, will also destroy the life of the tree; and their numbers and minute size preclude the idea of destroying them with a probe, as in the case of the common peach borer, the *Ægeria*.

The *Tormicus* passes into the beetle form in August, when most of the insects quit the parent tree, and seek a more healthy home for their future progeny. The eggs are then deposited in the bark, where they remain unhatched until the following summer, when they come into life, and, unsuspected, begin their work of destruction.

It will now be seen why the disease, caused by the *Tormicus*, has been consider-

ed infectious, and why the trees most in contact with the sickly tree will be the first attacked; and, also, why a tree that has been inoculated with buds from a healthy tree, but on which the eggs of the *Tormicus* have been deposited, will show the disease in the following year, and thus appear to have been inoculated by the sap.

From numerous experiments tried on trees under my care, I am convinced that nothing can be done to stop the disease from spreading, but to cut the tree down and burn it, root and branch, (for they are alike exposed to its attacks;) and thus by effectually destroying eggs, larvæ and perfect insect, prevent the escape of the beetle from the parent tree, to the injury of the surrounding ones. Whether in the beetle or grub form, this insect is seldom more than one-twelfth of an inch in length; but what is lost in size is made up in numbers, and thus their destruction becomes hopeless, unless by the sacrifice of the parent tree.

M. H. MORRIS.

Germantown, Pa., March 15, 1850.

REMARKS.—The foregoing is, we think, entirely new; and from the reputation of Miss MORRIS, as an entomologist, is entitled to attention. It will be remembered that there has been great dispute among cultivators, whether or not the "yellows" is contagious; and this appears to throw some light on the subject.

We are hardly satisfied, however, that the insect here described is the cause of the yellows. It may be simultaneous, or it may be that the insect prefers the diseased trees. At any rate, the yellows does not wholly depend on the *Tormicus* for its dissemination. We have satisfied ourselves that the mere contact of a knife, which has been used in pruning a tree diseased with the yellows, with the sap vessels of a healthy tree, is sufficient to communicate the yellows to the latter; and this poisonous condition of the sap hardly appears like the result of the attacks of insects upon the diseased tree.

Practically, however, the remedy Miss MORRIS' suggests is the only certain one, viz., digging up and burning every vestige of the diseased tree. This eradicates the disease; and then, in order to get a healthy stock of peaches again, it is only necessary to send to some district of country—and there are many—where the yellows does not exist.

Fifteen years ago, there was scarcely a tree in the neighborhood of Newburgh that was not more or less diseased with the yellows. By pursuing the course we have indicated, the disease has almost wholly disappeared; and peaches of the finest possible quality are now produced in great abundance, upon trees as healthy as were ever seen. ED.

THE POETRY OF TREES.

BY PROFESSOR WILSON.

[THE following fine rhapsody about trees, by "CHRISTOPHER NORTH," we reprint from a back volume of Blackwood's Magazine, at the suggestion of our correspondent, JEFFREYS.

Though Sir HENRY STUART's mode has never become popular in this country, a

very excellent substitute for it, which has, is the well known practice of removing trees 20 or 30 feet high, upon sleds with balls or masses of earth, as previously described in our pages. ED.]

Trees are indeed the glory, the beauty, and the delight of nature. The man who loves not Trees—to look at them—to lie under them—to climb

up them, (once more a schoolboy,)—would make no bones of murdering Mrs. Jeffs. In what one imaginable attribute, that it ought to possess, is a Tree, pray, deficient? Light, shade, shelter, coolness, freshness, music, all the colors of the rainbow, dew and dreams dropping through their umbrageous twilight at eve or morn—dropping direct—soft, sweet, soothing, and restorative, from heaven. Without Trees, how, in the name of wonder, could we have had houses, ships, bridges, easy chairs, or coffins, or almost any single one of the necessities, conveniences, or comforts of life? Without Trees, one man might have been born with a silver spoon in his mouth, but not another with a wooden ladle.

Tree by itself Tree, "such tents the patriarchs loved"—Ipse nemus—"the brotherhood of Trees"—the Grove, the Coppice, the Wood, the Forest—dearly, and after a different fashion, do we love you all! And love you all we shall, while our dim eyes can catch the glimmer, our dull ears the murmur, of the leaves—or our imagination hear at midnight, the far-off swing of old branches groaning in the tempest. Oh! is not Merry also Sylvan England? And has not Scotland, too, her old pine forests, blackening up her Highland mountains? Are not many of her rivered valleys not unadorned with woods—her braes beautiful with their birkin shaws? And does not stately ash or sycamore, tower above the kirk-spire, in many a quiet glen, overshadowing the humble house of God, "the dial-stone aged and green," and all the deep-sunk, sinking, or upright array of grave-stones, beneath which

"The rude forefathers of the hamlet sleep?"

We have the highest respect for the ghost of Dr. Johnson; yet were we to meet it by moonlight, how should we make it hang its head on the subject of Scottish Trees! Look there, you old, blind, blundering blockhead! That Pine Forest is twenty miles square! Many million trees, there, have at least five hundred arms each, six times as thick as ever your body was, sir, when you were at your very fattest in Bolt Court. As for their trunks—some straight as cathedral pillars—some flung all away in their strength across cataracts; some without a twig till your eye meets the hawk's nest diminished to a black bird's, and some overspread, from within a man's height of the mossy sward, with fantastic branches, cone-covered, and green as emerald—what say you, you great, big, lumbering, unwieldy ghost you, to trunks like these? And are not the Forests of Scotland the most forgiving that ever were self-sown, to suffer you to flit to and fro, haunting unharmed their ancient umbrage? Yet—Doctor—you were a fine old Tory every inch of you, for all that, my boy—so come glimmering away with you into the gloom after us—don't stumble over the roots—we smell a still at work—and neither you nor I—shadow nor substance, (but, prithee, why so wan, good Doctor? Prithee, why so wan?)

can be much the worse, eh, of a caulker of Glenlivet?

Every man of landed property, that lies fairly out of arm's length of a town, whether free or copyhold, be its rental above or below forty shillings a-year, should be a planter. Even an old bachelor, who has no right to become the father of a child, is not only free, but in duty bound to plant a Tree. Unless his organ of philo-progenitiveness be small indeed, as he looks at the young, tender plants in his own nursery-garden, his heart will yearn toward them with all the longing and instinctive fondness of a father. As he beholds them putting forth the tender buds of hope, he will be careful to preserve them from all blight—he will "teach the young idea how to shoot"—and, according to their different natures, he will send them to different places to complete their education, according as they are ultimately intended for the church, the bar, or the navy. The old gentleman will be surprised to see how soon his young plants have grown as tall as himself, even though he should be an extraordinary member of the Six Feet Club. An oak sapling, of some five or six springs, shall measure with him on his stocking-soles—and a larch, considerably younger, laugh to shake its pink cones far over his wig. But they are all dutiful children—never go straying from home after youthful follies—and standing together in beautiful bands, and in majestic masses, they will not suffer the noon-day sun to smite their father's head, nor the winds of heaven to "visit his face too roughly."

People are sometimes prevented from planting trees from the slowness of their growth. What a mistake that is! People might just as well be prevented from being wed, because a man-child takes one and twenty years to get out of his minority, and a woman-child, except in hot climates, is rarely marriageable before fifteen. Not the least fear in the world, that Tommy and Thomasine and the Tree will grow up fast enough—wither at the top—and die! It is a strange fear to feel—a strange complaint to utter—that any one thing in this world, animate or inanimate, is of too slow growth; for the nearer to its perfection, the nearer to its decay.

No man, who enjoys good health, at fifty or even sixty, would hesitate, if much in love, to take a wife, on the ground that he could have no hope or chance of seeing his numerous children all grow up into hobbledaboys and Priscilla Tomboys. Get your children first, and let them grow at their leisure afterwards. In like manner, let no man, Bachelor or Benedict, be his age beyond the limit of conversational confession, fear to lay out a nursery-garden—to fill it with young seedlings, and thenceforward to keep planting away, up hill and down brae, all the rest of his life.

Besides, in every stage, how interesting, both a wood and sap tree, and a flesh and blood child! Look at pretty ten-year old, rosy cheeked, golden-haired Mary, gazing with all the blue brightness

of her eyes, at that large dew-drop, which the sun has let escape unmelted, even on into the meridian hours, on the topmost pink-bud of that little time-tree, but three winters old, and half a spring! Hark! that is Harry, at home on a holiday, rustling like a roe in the coppicewood, in search of the nest of the blackbird or mavis—yet ten years ago that rocky hill-side was unplanted, and that bold boy, so bright and beautiful," unborn. Who, then—be his age what it may—would either linger, "with fond, reluctant, amorous delay," to take unto himself a wife, for the purpose of having children, or to enclose a waste for the purpose of having trees?

At what time of life a human being—man or woman—looks best, it might be hard to say. A virgin of eighteen, straight and tall, bright, blooming, and balmy, seems, to our old eyes, a very beautiful and delightful sight. Inwardly we bless her, and pray that she may be as happy as she is innocent. So, too, is an oak tree, about the same age, standing by itself, without a twig on its straight, smooth, round, glossy, silver stem, for some few feet from the ground, and then branching out into a stately flutter of dark-green leaves; the shape being indistinct in its regular but not formal over-fallings, and over-foldings, and over-hangings, of light and shade. Such an oak tree is indeed truly beautiful, with all its tenderness, gracefulness, and delicacy—ay, a delicacy almost seeming to be fragile, as if the cushat whirring from its concealment, would crush the new spring-shoots, sensitive almost as the gossamer, with which every twig is intertwined. Leaning on our staff, we bless it, and call it even by that very virgin's name; and ever thenceforth behold Louisa lying in its shade. Gentle reader, what it is to be an old, dreamy, visionary, prosing poet!

Good God! let any one who accuses trees of laziness in growing, only keep out of sight of them for a few years; and then, returning home to them under cloud of night, all at once open his eyes, of a fine, sunny, summer's morning, and ask them how they have been since he and they mutually murmured farewell! He will not recognize the face or the figure of a single tree. That sycamore, whose top-shoot a cow, you know, browsed off, to the breaking of your heart, some four or five years ago, is now as high as the "rigging" of the cottage, and is murmuring with bees among its blossoms, quite like an old tree. What precocity! That Wych elm, hide-bound as it seemed of yore, and with only one arm that it could hardly lift from its side, is now a Briareus. Is that the larch you used to hop over—now almost fit to be a mast of one of the fairy fleet on Windermere? You thought you would never have forgotten the Triangle of the Three Birches—but you stare at them now as if they had dropped from the clouds; and since you think that beach—that round hill of leaves—is not the same habby shrub you left sticking in the gravel, why

call the old gardener hither, and swear him to its identity on the Bible.

Before this confounded gout attacked our toe, we were great pedestrians, and used to stalk about all over the banks and braes from sunrising to sunset, through all seasons of the year. Few sights used to please us more than that of a new Mansion-house, or Villa, or Cottage ornee, rising up in some sheltered, but open-fronted nook, commanding a view of a few bends of a stream or river winding along old lea, or rich holm ploughed fields—sloping uplands, with here and there a farm-house and tree—and in the distance hill-tops quite clear, and cutting the sky, wreathed with mists, or for a time hidden in clouds. It set the imagination and the heart at work together, to look on the young hedge-rows and plantations, belts, clumps, and single trees, hurdled in from the nibbling sheep. Ay, some younger brother, who, twenty, or thirty, or forty years ago, went abroad to the East, or the West, to push his fortune, has returned to the neighborhood of his native vale at last, to live and to die among the braes, where once, among the yellow broom, the school-boy sported gladsome as any bird. Busy has he been in adorning—perhaps the man who fixes his faith on Price on the Picturesque, would say, in disfiguring—the inland haven where he has dropped anchor, and will continue to ride till the vessel of life parts from her moorings, and drifts away on the shoreless sea of eternity. For our own parts, we are not easily offended by any conformation into which trees can be thrown—the bad taste of another must not be suffered to throw us into a bad temper—and so long as the trees are green in their season, and in their season, purple, and orange, and yellow, and refrain from murdering each other, to our eye they are pleasant to look upon—to our ear it is music; indeed, to hear them all a-murmur along with the murmuring winds. Hundreds—thousands of such dwellings have, in our time, arisen all over the face of Scotland; and there is room enough, we devoutly trust, and verily believe, for hundreds and thousands more. Of a people's prosperity, what pleasanter proof! And, therefore, may all the well-fenced woods make more and more wonderful shoots every year. Beneath and among their shelter, may not a single slate be blown from the blue roof, peering through the trees, on the eyes of the distant traveller, as he wheels along on the top of his most gracious Majesty's mail-coach; may the dryads soon wipe away their tears for the death of the children that must, in thinnings, be "wede away;" and may the rookeries and heronries of Scotland increase in number for the long space of ten thousand revolving years!

Not that we hold it to be a matter of pure indifference, how people plant trees. We have an eye for the picturesque, the sublime, and the beautiful, and cannot open it without seeing at once the very spirit of the scene. O! ye, who have

had the happiness to be born among the murmurs of hereditary trees, can ye be blind to the system pursued by that planter—Nature? Nature plants often on a great scale, darkening, far as the telescope can command the umbrage, sides of mountains that are heard roaring still with hundreds of hidden cataracts. And Nature often plants on a small scale, dropping down the stately birk so beautiful, among the sprinkled hazels, by the side of the little water-fall of the wimpling burnie, that stands dishevelling there her tresses to the dew-wind, like a queen's daughter who hath just issued from the pool of pearls, and shines aloft and aloof from her attendant maidens. But man is so proud of his own works, that he ceases to regard those of Nature. Why keep poring on that book of plates, purchased at less than half price at a sale, when Nature flutters before your eyes her own folio, which all who run may read—although to study it as it ought to be studied, you must certainly sit down on mossy stump, ledge of an old bridge, stone-wall, stream-bank, or broomy brae, and gaze, till woods and sky become like your very self, and your very self like them, at once incorporated together and spiritualized. After a few years' such lessons—you may become a planter—and under your hands not only shall the desert blossom like the rose, but murmur like the palm, and if "southward through Eden goes a river large," and your name be Adam, what a skeptic not to believe yourself the first of men, your wife the fairest of her daughters Eve, and your policy Paradise!

Unless you look and listen, and lay to heart what you see and hear, you will make a pretty pickle of planting. Huge wagons come hulking along the cross-roads, piled up with all sorts of young trees swathed in mats, and you and your Grieve and his men cannot rest till they are all stuck into the soil—higgledy, piggedly, promisky, and on the principle of liberty and equality—each plant being allowed the same want of elbow-room, and the same chance—no choice—of dry or moisture. Here a great awkward overgrown hobbledohoy of a poplar, who keeps perpetually turning up the whites of his leaves at every breath that blows, stands shivering like an aspen, cheek by jowl with a squat, sturdy, short-necked, bandy-legged pech of a Scotch fir, as dour as the devil in a squall, though, unlike that gentleman, unable to stand hot weather, and looking in a brown study, indeed, during the dog-days. Here, again, the greenest of all saughs, brightening with the love of life, in a small marsh—for the saugh loves wet like the whaup—by the side of the yellowest of all larches, pining and dwindling in the fear of death, but which is the top-shoot no man can tell, and eaten alive by insects. There, seven as pretty young oaks as you may see on a summer's morning, committing fratricide for possession of that knoll! Now that yonder ash has, after a sore tussle, got these two elms down, you may depend upon it he will not let them up again in a

hurry; or if he does, why that sycamore will settle him for such stupidity, having the advantage of the ground, and being his superior in height, weight, and length, and at least his equal in science. And then is there not something exceedingly pretty in the variegation of such patchwork policy? Pretty as any coverlet to any old woman's bed in all the parish? No great, huge, black, sullen, sulky masses of shade, no broad bright bursts of sunshine, enough to drive a man mad with sudden mirth or melancholy, as he wanders among the woods—but every tree standing by itself, with an enormous organ of individuality, so that you cannot help trying to count them, yet never get beyond a score, being put out of your reckoning by an unexpected poplar standing with his back against a rock, in vain combat with a sharp-nailed silver fir, scratching his very eyes out—a beech bathing in a puddle of moss-water—or something in the shape of an ornamented shrub, struggling in the many-fingered grasp of the strangulation heather, like a Cockney entangled among the Scottish Thistle.

Then what a pest are your prigs of professional planters. They walk with such an air about your rural premises, as if you had not a single eye in your head, and did not know a frowning ash from a weeping birch, a bour-tree from a gooseberry bush, whins from broom, or rasps from rowans. If there be a barn or byre, on the estate, they begin with planting it out as if it were a poor's house, or an infirmary, or a tan-yard, or perhaps pulling it down; in which case, what becomes of the corn and the cows?

"Of a' the airts the wind can blaw,
You dearly lo'e the west;
For there the bonny lassie lives,
'The lass that you lo'e best.'"

And with many a beautiful sunset has your soul sunk away behind the gorgeous weather-gleam, into her fair and far-off bosom. The monster plants it out, too, and be hanged to him, with a spindle-shanked grove, that will continue to wear a truly transplanted and haggard appearance to the day of judgment.

Having thus, day after day, planted out all "old familiar faces," nothing will satisfy him but to open up; and down go temples and towers that never can be rebuilt—trees old as Sin, stately as Satan, beautiful as Virtue, and reverend as Religion. The river, robbed of all the magnificence with which imagination blackened and whitened it, as it moved unseen through the woods—unseen, but in one bright bend here, one sullen stretch there—one deadened cataract steaming and gleaming yonder through its oak canopy, now rolls on disenchanting through the light of common day; and you may see ladies, and ladies' maids, with green parasols, hunting butterflies all by themselves, or flirting with dragon officers, and under-graduates from Oxford. That mile-long elm avenue—a cathedral in which a hundred thousand penitentials might have prayed—is swept

away in the reformation, and you now approach the modern mansion, for the old hall is down or deserted, circuitously, after a fashion of one of the representatives of the people making a speech in Parliament, who prefers taking two hours to reach a conclusion at which he might have arrived by driving on straight forward, in about five minutes and a half, going at the accelerated but not unreasonable rate of eight miles an hour. Perhaps an old kirk, or church be it—the very parish one—is found to be too near the house; for, though faint, and far off, still when the atmosphere is clear, and the wind west, you can hear the voice of psalms; and therefore that the silence of Sabbath may not be rudely disturbed, the kirk or church, with spire or tower, is swept away, and its burial-ground, so inoffensive with its “low memorials still erected nigh,” shut up—but no—that may not be—for the poor parishioners will insist on laying their bones beside those of their forefathers; and surely a few funerals in the year—say a score at the most—need not spoil the rich man’s appetite for dinner—if appetite he otherwise would have had; nor may the holy bell that used to toll to prayer now be heard with its little cracked tinkling, so much louder is the gong that summons to lunch or tiffin, and sets the flunkies afloat through all the stair-cases from parlor to pantry, from Moli, the poeny-rose of the kitchen, to Louisa, the white lily of the drawing-room, languishing and luxury being alike the order of the day, from cellar to garret; for in high life, both above and below stairs.

“Love is Heaven, and Heaven is Love.”

Let all people, then, beware of dealers in this picturesque; for they are universally greedy, and generally ignorant, and may do more harm in a week, than Nature can repair in a year. Get some painter of genius, like Andrew Wilson, or William Allen, or John Watson Gordon, or Hugh Williams, or Alexander Nasmyth, or Mr. Thomson of Duddingstone, to come sauntering out with his portfolio, and take up his abode for a few days in your friendly house, strolling about with you during the forenoons among the banks and braes, and beautifying the paper during the evenings with fair creations of taste and fancy, prophetic of the future beauties and glories that shall ere long be overshadowing your estate. They will not scare the Naiads, the Dryads, and the Hamadryads, from their old haunted nooks—the fairies will not fly their approach, any more than the rooks and herons—in every pool and turn, Nature will behold herself not only in undiminished but in heightened charms—Flora will walk hand in hand with Pomona, and the two together will smile sweetly on old Father Pan, roaming in all his original hairiness in the forests. And happily you may have among your friends some poet,

“Who murmurs near the hidden brooks
A music sweeter than their own.”

Him you may consult, at the close of his noontide reverie, and from his sown words will spring up

all varieties of grace, loveliness, and majesty, till every woodland murmur breathes of poetry, and poetry brightens from the heaven of every tree-and-cloud-shadowed water, asleep within the silence of the solitary woods.

Of the multitude of thoughts within us, we know not one more cheering than the belief, that the world is, and ever must be, in a state of very great ignorance about all those things that are of most avail to human use or pleasure. There is a perpetual flux and reflux—ebb and flow of all things on the face of this our pleasant earth. Look up to the hill-side, and you see the water-line of beauty, parallel to that on the opposite green range, telling that long ago a loch filled the valley, till it burst the mound that confined it, and away it flowed on, in a river, to the sea. Look on those ruins, apparently of houses—inland now, it may be said—yet shells are to be gathered still around the garden wall, touched in the olden time by the foot of the flowing Neptune. Or look into that lucid bay, and you will see the roofs of chimney-tops of what once were cottages—cottages that stood at night on the shore, twinkling like stars; while on the silvery sands between them and the sea the fishermen dried their nets. All this is at once melancholy and consoling, to be thought of alternately with a smile and a tear. Then for the march of intellect, it is fortunately often retrograde; for, if it were not, intellect would march on to the utmost possible length of its tether—break the tether, and fall over “the back of beyond.” But intellect has more sense; and, therefore, may be often seen suddenly ordering the whole army to halt, light and heavy brigades alike—going into winter quarters—encamping on the spot, or perhaps falling back upon the wagons and commissariat. Thus it is impossible that the grand campaign can ever come to an end till the stars slacken in their courses, and the sun is kicked out of that solar system of his, where he is seen “out-shining like a visible God, the path on which he trode,” kicked out of his own solar system, just like a football.

Thus, to return to trees. Trees have been planted for these six thousand years and upward, and yet were some forester who planted, long before the Christian era, the palm-trees by the wells of Palestine—or the cedars from Lebanon along the banks of the brook Kidron—to open his eyes to a perusal of Monteath’s Forest Guide, we do not believe that the good old Jew would think the Galwegian a whit wiser than himself—or that he would even think Sir Walter had worked a miracle in that famous article of his own planting, No. 72, of that thriving journal, the Quarterly Review. Though we think we can point out a few rather important mistakes in the moral wisdom of Solomon, yet we perfectly agree with him in his apothegm, “that there is nothing new under the sun.” That Solomon knew both the theory and practice of transplanting trees, we are not with-

out good reason for believing; though at the same time could we suppose him, by a bold anachronism, to have visited Allanton along with the committee of the Highland Society, to see and report on the wonders wrought there by Sir Henry Stuart, Bart., we have no doubt that he would have lifted up his hands in no little astonishment, and confessed, that in all his transplantings, from the cedar on Lebanon to the hyssop on the wall, he had never beheld such a sudden and fairy enchantment not even raised by his own magical ring that built Balbeck and Syrian Tadmor in the desert, as that now overshadowing that park and its own swan-frequented loch.

Sir Henry will pardon this somewhat rambling and off-handed exordium—but we come now to his book, which is a truly delightful one, both in style and subject. Sir Henry is an admirable classical scholar, and writes with great perspicuity, eloquence, and animation. He is also, in the department of nature he has here chosen to illustrate, a man of science. He has proceeded, in all his practice, on principles; and the explanation he has given in this volume of those principles, entitles him to a high rank among these writers, as yet too few, who have brought a knowledge of physiology to the advancement of arboriculture.

In the two first sections of his work, he descants very eloquently on the utility and importance of arboriculture, and of the art of giving immediate effect to wood, and learnedly traces the history of the art, from the earliest down to the present times—from the days of Theophrastus, Cato, Varro, and Columella, to those of Pliny and the younger Seneca, instituting a comparison between the Greek and Roman methods. Then from the period of the art in the 17th century, when Count Maurice, of Nassau, achieved such wonders in his splendid gardens in Brazil, and Louis XIV carried on his gigantic operations at Versailles and the Bois de Bologne, while the art was cultivated in England by Evelyn, Wise, and Lord Fitzharding. An account is then given of his Transplanting Machine, by that once overrated, now underrated genius, Brown. The introduction of landscape gardening into Scotland and Ireland is then described, and its progress under White, Robertson, Hayes and Boutecher, &c. Praise, with certain judicious qualifications, is then given to Marshall, whom Sir Henry calls “the best English planter of that day,” and he passes some severe strictures on the lighting and lopping system as desecrated by the ingenious Miller. From his time to the present day, the art, in all countries too vague, and seldom considered on fixed principles, has been stationary; and Sir Henry hopes, and after what he has achieved, we think not presumptuously, that it may now be said to be not only restored, but established on the laws of nature.

With all due admiration of Sir Henry’s theory and practice, we cannot think that his precedes-

sors, in the art of transplanting, were all so imperfectly acquainted with the laws of Nature as he seems to suppose, or that they all went to work in comparative ignorance or contempt of the spirit in which she performs her wonderful processes. On the contrary, we do not doubt that all great and good transplanters—and that there have been many such, he himself shows by beautiful descriptions of some of their achievements—knew much of the true principles of transplanting; and that his own merit chiefly consists in having formed a system, in which all their excellencies have been united, and from which all their errors have been excluded; while unquestionably his own sagacity and experience have supplied something new to finish and complete his theory. This, if true, so far from detracting from his merit, is a proof and a pledge of it; for discoveries at this day of the world, laying claim to perfect originality, are on that very account of a suspicious character; and we confess that we have all along felt this book to be a most delightful one, because in every paragraph the process described appears so natural as almost to be self-evidently right—nothing startling or very recondite, puzzles, perplexes, or appals—and we are assured, from what we have ourselves already known or done, that we have been only more fully enlightened on a subject not unfamiliar to us, by a person who has studied it more earnestly and profoundly, and from the very first brought to that study a clear head, habits of close and accurate observation, and much of that enthusiasm without which no mind ever yet saw far or clearly into the laws of nature, or gained from that knowledge power to assist her operations. What knowledge of the true principles of transplanting must not have been possessed by those who worked the wonders so finely described in the following passage?

“Among the earliest and most successful planters, on a great scale, was Count Maurice of Nassau, who figured as Governor of Brazil in 1636, when that settlement was in the hands of the Dutch. This prince was a man of taste and elegance, for the age in which he lived; and he adorned his palace and gardens there, with a magnificence worthy of the Satraps of the East. Gaspar Barlaeus, one of the best poets of his time, is the historian of the expedition; and he has given the narrative in a style, that, on some occasions, will bear a comparison with the delineations of Livy or Tacitus.

“The governor’s residence was upon an island, formed by the confluence of two rivers, which are called, by Barlaeus, the Capevaribis, and the Biberibis, and was named Friburg. Before the Prince commenced his improvements, as the historian informs us, it was a very hopeless subject; a dreary waste, an uncultivated plain, without a tree or bush to shelter it; and, in a word, equally worthless and unattractive. Here, notwithstanding, he erected a splendid palace, and laid out gardens around it, of extraordinary extent and

magnificence. In the arrangement of the buildings, salubrity, tranquility, and horticultural ornament, were all studiously and tastefully combined. The choicest fruits of a tropical climate, the Orange, the Citron, the Ananas, with many others unknown to us, solicited at once the sight, the smell, and the taste; while artificial fountains of water, preserving the coolness of the air, and the verdure of the earth, rendered it a spot of peculiar attraction. In laying out the grounds also, such was the designer's skill, and the magnificent scale of the plantations and grass-plats, that no fewer than thirteen bastions and turrets flanked and defended the gardens, and promoted alike seclusion and security. And in order to complete at once, and give the immediate effect of wood to so great a change on the face of nature, he removed to the spot, no fewer than seven hundred cocoa trees of various sizes, of which some rose to thirty, some to forty, and some to fifty feet high, to the lowermost branches.

"Of the success of the improvement last mentioned, no one, but the Prince himself, entertained the slightest expectation. Yet such, says Barlaeus, was the ingenuity, as well as persevering labor displayed in the work, that the whole was accomplished with the most perfect success. Notwithstanding the immense size of the trees, which were of seventy and eighty years' growth, they were skillfully taken up under the Prince's superintendence. They were then placed on carriages provided with wheels, and conveyed over a space of from three to four miles in extent, and ultimately transported on rafts, across both the rivers, to the shores of the Island. On being planted there, so favorable were both soil and vegetation in that genial climate, that they immediately struck root, and even bore fruit, during the first year after their removal. Thus, adds Barlaeus, the truth of the ancient adage was for once disproved, which says that 'It is impossible to transplant an old tree with success.'"

In sections third, fourth, and fifth, Sir Henry gives a full, learned and scientific development of the new theory, or principle of the art, occupying about 120 pages. Section sixth treats of the preparation of the soil, for open dispositions of trees, and close plantations. Section seventh, preparation of trees for removal. Section eighth, taking up and transportation of the trees. Section ninth, planting of the trees in their new situations. Section tenth, treatment of the trees subsequently to removal. Section eleventh, expense attending the foregoing operations. The eleven sections occupy about 350 pages, and there are about 120 pages of explanatory notes, and an appendix. Let Sir Henry speak for himself:

"To such persons especially, and to all men possessed of landed property, the immediate effect of wood must appear a considerable object, if any method can be devised to obtain it with success and certainty. What, then, would such persons say, were they informed that so obscure a

practice as that of transplanting could do this, that an *entire park* could be thus *wooded at once*; and forty years of life anticipated? The fact is that the possibility of the improvement, and much more, has been verified by pretty extensive experience. Groups and single trees have been scattered everywhere in such a park at pleasure, in all sorts of soils and exposures, and applied to the composition or the improvement of real landscape. Instead of lopping and mutilating the trees, and sometimes altogether decapitating them, (as has been the general practice,) the grand point has been gained of *preserving their tops entire*; so that, with subjects of whatever magnitude, *no loss of either spray or branches is suffered*; and, what is still more important, *no loss of health and vigor in the trees*, excepting for a short period, after having undergone the process of removal.

"But, besides the various combinations and details of the landscape, it has been found also quite practicable to apply the art to the most general purposes of utility and shelter, whether in large towns, or in the country, by the transplanting of copse or underwood of any size or species. This is either formed alone into large masses, or it is intermixed with grove or standard trees, as circumstances in either situation may require. By these means, some of the most interesting objects, both agricultural and ornamental, have been accomplished, at a *very moderate expense*, and brought within the reach, not only of the great and opulent, but of any person of limited fortune.

To those who never intend to plant or transplant a tree in their lives, but who nevertheless know a tree when they see it, many parts of the book will be as amusing as the description in a poem or fairy tale. To those who would fain transplant, but know not how to set about it, it will explain how sylvan scenes may be suddenly, and at moderate expense, spread over the barest wild; and to those who love to study the wonderful works and laws of nature for their own sakes, and, in delighted reverence of that power, wonder, and goodness, in which they were all made, a work of which the object is to show art, availing itself of nature, will afford much of that high kind of gratification, which attends the enlargement or elucidation of our knowledge of any of the principles, agencies, or operations, forever busy in beautifying the face of the external world.

The only real magic lies in understanding and learning something of the laws according to which nature breathes and works. The enchanter's wand is buried many fathoms deep in the sea. But science has unveiled, and art constructed, engines and machines, that do all and more than the enchanters of old. A man would have formerly thought himself witched—and he would have been right in thinking so—who, looking out of his bed-room window in the morning, might have beheld a noble tree standing on a plat, which

the evening before was altogether objectless; but no one need rub his eyes, or believe himself to be in the *Londe of Faery*, at such a sight now; for, by the Transplanting Machine, the tree, long before prepared to leave its native soil, is lifted up with almost all its roots, and with all its branches, and let down into the depth of its new bed, with so little violence done to it in bark, sap, branch, twig, leaf, or fibre of leaf, that it seems, even in its first spring, hardly to have felt the change; and taking kindly to the mould, into which its roots are not slow to strike, the bees discover no difference in the taste of its honey-dew, and the wondering birds, of whom it may be said "*miranturque novos frondes*" begin to carol, and pair, and build, and breed, among its novel umbrage. There is something extremely pleasing, and, were it of a fictitious scene, it might be said, extremely poetical, in the following description, by Sir Henry of the park at Allanton:

"At the place from which these pages are dated, may be seen a park of limited extent, and possessing no particular claim to beauty, but visited from curiosity by many persons, within the last ten years. It consists of about a hundred and twenty English acres, abundantly clothed with trees and underwood of every common species, by means of the transplanting machine; and exhibiting within itself a *practical illustration* of every principle laid down, and every theory held forth in this Essay. The single trees and bushes, in groups and open dispositions, amount to about seven hundred in number, exclusively of close plantations and copsewood. Their size, when removed, is not great, the largest not exceeding from thirty to forty feet in height, and from three, or three and a half, to five feet in girth, at a foot from the ground; but many of them are of much smaller dimensions. The height of the bushes or underwood removed has been from four to ten feet, and consisting of every sort usually found on the banks of lakes and rivers. But size in an art founded on fixed principles, is a mere matter of choice and expenditure; for trees of the greatest size must be almost as certain and successful in removal, as those of the least. It was desirable, however, as almost everything was to be done here, in the way of parkwood, to limit the operations to the smallest possible expenditure, consistently with producing some effect on the foreground, and middle distance of the landscape; and with careful execution.

"Whoever will take the trouble to visit the place, will perhaps find his labor repaid, in examining the progress of an art, calculated probably to become as popular as any that has been cultivated within a century; as there is scarcely any

one, in which so many persons in the higher and middle ranks are interested.

Considering the prejudices which exist against the art, and that the great power, of which it is susceptible, will with difficulty gain belief, it may be worth while to state a few facts as to its general application, which are as incontrovertible as they may seem surprising to the reader. It is from no vain desire to exaggerate what has been done at this place, but merely to show the degree of progress, which the art has made, under the greatest disadvantages of soil and climate. It is also for the purpose of proving to those who may engage in similar undertakings, that, whatever has been done well *here*, may, with equal industry, be done a great deal better in most other situations.

"There was in this park originally no water, and scarcely a tree or a bush, on the banks and promontories of the present lake and river; for the water partakes of both those characters. During the summer of 1820, the water was executed; and in that and the following year, the grounds immediately adjoining were abundantly covered with wood, by means of the transplanting machine. Groups and single trees, grove and underwood, were introduced in every style of disposition which the subject seemed to admit. Where the turf recedes from, or approaches the water, the ground is somewhat bold and irregular, although without striking features of any sort; yet the profusion of wood, scattered over a surface of moderate limits, in every form and variety, gave it an intricacy and an expression which it never possessed before.

"By the autumn of the *third* year only after the execution, namely, 1823, when the committee of the society honored the place with their inspection, the different parts seemed to harmonize with one another, and the intended effects were nearly produced. What it was wished to bring forward appeared already prominent. What was to be concealed or thrown into the background, began to assume that station. The foreground trees, (the best that could be procured,) placed on the eastern bank above the water, broke it into parts with their spreading branches, and formed combinations which were extremely pleasing. The copse or underwood, which covers an island in the lake and two promontories, as also an adjoining bank that terminates the distance, was seen coming down nearly to the water's edge. What was the most important of all, both trees and underwood had obtained a full and deep-coloured leaf, and health and vigor were restored to them. In a word, the whole appeared like a spot at least forty years planted."

TIGER-FLOWERS AND COMMELINAS.

BY AN AMATEUR, NEW-YORK.

I. THE TIGER-FLOWER.—I see your correspondents make frequent inquiries about Verbenas, Scarlet Geraniums, and other plants for “bedding out;” but I rarely see any notice taken of two of the most splendid species for summer and autumn blooming in beds. I mean the Mexican Tiger-flowers, (*Tigridia pavonia* and *T. conchiflora*.)

For gay colouring and striking appearance, nothing that will flourish in the open border can compete with the Tiger-flowers. Their open cup-like blossoms, either of a rich orange-crimson, as in the Peacock Tiger-flower (*T. pavonia*), or a chrome yellow, as in the Shell Tiger-flower, (*T. conchiflora*), spotted in both species, with rich purple and dark crimson in the bottom of the cups, have a brilliant and showy effect, entirely in keeping with our ideas of what a Mexican flower should be.

These flowers open in the morning, and fade before evening; but as each flower stem produces several flowers in succession, a bed three or four feet in diameter, containing a couple of dozen bulbs, will produce a constant show of blossoms every day from July to November,—forming one of the most attractive spots in the whole flower garden.

The Tiger-flowers are bulbous plants, growing from one to two feet high. As our bright summers ripen the bulbs as perfectly as in their native country, they would be as common in our flower gardens as Tulips, were it not that the bulbs must be taken up and sheltered from the frost in

winter. This, however, is so easily done that no lover of fine summer flowers will grudge the ten minutes’ labor, necessary, at the approach of winter, to preserve the bulbs till spring. The easiest and most successful way of keeping them, is to take them up as soon as the first frost has touched the tops, lay the entire plant in some sheltered place for a couple of days to dry, then, after cutting off the tops, lay the bulbs in



Fig. 111.—The Tiger-flower.

a shallow box, mixing and covering them with dry sand. This box may be then set away on a shelf in any part of the house or cellar, (or under the stage of the greenhouse,) where frost will not reach it, and there it may remain till the following spring. Indeed, we take no pains, except to cut off the tops, throw the bulbs in a box, covered with a lid, and place the box under the stage of our greenhouse.

The Tiger-flower will grow and bloom

with little or no care, in any sunny part of the flower garden where the soil is good. But it is greatly increased in size and beauty, by throwing out about one-half of the soil of the bed where you intend to plant it, and filling it with equal parts old manure and white sand. In such soil, the bulbs grow strong, the leaves are abundant, and the flowers much finer and more abundant.

The bulbs, which may be had at this season at THORBURN'S, BUIST'S, or any of the leading seedsmen, may be planted any time from the middle of April to the first of June. The earlier planted, the sooner the flowers appear, and the better bulbs you have for the next year. As the bulbs increase rapidly, from offsets, half a dozen will soon produce enough for a bed of considerable size.

A bed formed partly of the *Tuberosa* (the most deliciously scented of all bulbs, and one which will succeed well with the same treatment,) has a beautiful appearance in the months of August and September,—the pure white of the *Tuberosa* being heightened by the gay colouring of the Tiger-flowers.

II. THE COMMELINA.—A tuberous rooted plant, (the roots like a miniature *Dahlia*,) also from Mexico. The sky-blue *Commelina* (*C. celestis*,) is the prettiest, though *C. tuberosa* is also handsome. Nothing can exceed the exquisite ultra-marine blue of the *Commelina*, and it is still more easily cultivated than the Tiger-flower; though, like the latter, the roots require to be taken up, and should receive exactly the same protection in winter.

The *Commelina* grows about eighteen inches high, produces a succession of flowers from mid-summer till November,—small blossoms borne in clusters, starting from the ends and joints of all the little branches.

The same soil and treatment recommended for the Tiger-flowers will suit this; and it may be propagated in the easiest manner by dividing the roots or sowing the seeds.

As the *Commelina* often flowers the first year from the seed, it is generally sold by the seedsmen as an annual, but if our readers wish to see the full beauty of the flowers, they must preserve the tubers, and plant them the second season. The *Commelina* and Sweet Alyssum, sown together, form a beautiful bed or mass in the flower garden,—the blue of the former being set off by the white of the latter. As the seeds or the roots may be had at the principal seed-stores, your readers will find it easy to carry out this hint. Yours, &c.

AN AMATEUR.

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REMARKS.—The Mexican Tiger-flowers are old favorites of ours. As we have frequently observed a tendency towards *variation* in the flowers produced in a large bed of *Tigridias*, and have several times observed flowers with four and five petals, instead of three, the normal number, it occurs to us that if our amateur or professed florists would take this plant in hand, and by carefully fertilizing the flowers of *T. pavonia* with those of *T. conchiflora*—preferring those blossoms for this purpose which show a tendency to enlargement or variation—fine new varieties might be produced. For our own part, we think the *Tigridia* a far finer bulb for American flower gardens than the Tulip; it is much more brilliant, comes at the time when flowers are most needed, and, instead of lasting for a week only, continues to bloom—when grown in a bed—for at least three months. Half as much pains as has been taken with the Tulip, would doubtless give us novelties in Tiger-flowers more brilliant than anything yet known in the flower garden. ED.

HOW TO CULTIVATE THE APRICOT.

THERE is, perhaps, no fruit which so generally eludes the grasp of most cultivators in this country, as the apricot. A tree, hardy enough to bear our winters, which makes an abundance of sound and healthy wood, blossoms profusely, and sets a large crop of fruit, as a common standard tree in the open garden, without the aid of walls or espaliers, *ought* to be as easily cultivated, and produce its fruit in as great abundance, as the peach.

Yet, though the orchards of the middle states produce millions of bushels of peaches annually, apricots may almost be counted by dozens. Here and there, in some especially favorable locality, they are yielded abundantly; but, for the most part, a fine basket of apricots is a rarer sight than one of oranges or pine-apples; for the latter, at least, are sent to us in abundance from our neighbors of the West Indies.

Now, as the apricot, though by no means equal to the peach, is still a most agreeable fruit for the dessert, and, when not fully mature, perhaps the best of all fruits for tarts, and as, besides this, its value is greatly enhanced by the absolute dearth of all other fruits in the open garden, in July, it may be worth while to bestow a little thought upon the real nature of the difficulties that stand in the way of its cultivation.

First of all, then, the apricot is a more tender tree than the peach; not, perhaps, as regards its power of enduring a low temperature in winter without injury, but in the susceptibility of the bark to injury from the sun and frost combined. Hence, we suggest two modes of guarding against

this, viz: 1st, keeping the trees low; and 2d, keeping the bark protected by a wash.

Keeping the trees low.—Experience has taught us that, for our climate, all exposure of the trunk of the apricot to the sun does positive harm. The head or top should be looked upon in the light of an umbrella or sun-shade, intended by nature to guard the trunk from violent heat and sudden changes; and the same good result is produced by shading the roots of a tree, or, rather, the soil directly over them.* For this reason, never “trim up” the stem of an apricot tree. On the contrary, if you are planting a young tree, always cut it down to two or three feet, so as to force it to throw out branches as near the ground as possible. During the first three years after planting, head back the shoots severely every spring, say two-thirds of the previous years’ growth. This will force the tree to form a thick, low head, more like a wide, compact bush than an ordinary tree. The annual treatment of this tree afterwards, as regards pruning, will be to shorten-back the growth of the shoots produced the previous year, by taking about *one-third* at the end of each shoot, and to thin out any dead or decaying branches. Occasionally, say once in four or five years, as the tree grows older, it will need *heading-back* more severely, say two or three feet, in the principal limbs, so as to force it to produce a new head, and preserve its bushy, compact form. With a tree pruned in this way, forming in fact a large apricot *bush*, the foliage will shade the trunk and the roots so as to prevent in-

* If not shaded by the roots, then let them be covered with straw, tan, or litter, two or three inches deep.

jury from heat and cold, and thereby, to a considerable extent, prevent the attacks of insects in the bark; for a little observation will convince any one, that insects rarely select thrifty trees with dense foliage, but those with few branches and delicate habit.

Where the trees are already pruned in the usual form, viz., standards, with clean trunks five or six feet high, we would protect the bark from injury by the sun and insects, by coating it over with the following, applied early in May:

Wash for the Trunks.—Take common white-wash, one pail two-thirds full; add two quarts pulverized soot, two pounds fine sulphur, and one quart wood ashes; mix all thoroughly, and apply it to the trunk and principal branches with a common white-wash brush.

This will protect the bark from the attacks of the *Ægeria*—the insect so fond of depositing its eggs in the trunk. But before it is applied, the tree should be examined; and if any insects have already taken up lodgings therein, (which will be known externally by indications of gum, or discoloration,) they must be taken out with the knife.

Soil and Exposure.—Any good garden soil, *well fertilized with wood ashes*, will suit the apricot tree, provided it is *deep* and well drained, so as not to retain water. In order to secure the former point, it should be trenched at least two feet in depth before planting the trees. This will allow the roots to penetrate deep enough not to be injured by the heat of our violent mid-summer sun, and enable them to collect moisture for the leaves in the driest part of the season.

No mistake is so common in this country as that of placing the apricot in the wrong position. Because it is considered a delicate fruit, most people fancy they are doing

it an especial kindness by placing it on the south side of a wall, fence, or building. The tree so placed, is excited into growth early in the season, by which the blossoms are destroyed; the trunk and branches are exposed to sudden thawings, after severe frost in winter, from the reflected warmth of the wall or building; and as the site is peculiarly hot and dry in summer, the whole tree is very likely to get parched, suffer from heat, and get into that feeble condition which renders it an easy prey to insects.

The proper aspect for the apricot tree is, then, one rather cool than warm. The open garden will do very well; but a north slope, or even the north side of fences, walls or buildings, is better in this latitude than one on the south. There is no fear that the fruit will not ripen in such situations, wherever in the United States the tree will thrive at all; for its maturity takes place in our highest summer temperature, and not at the beginning of autumn, like the peach. On the other hand, an apricot in a northern aspect will never be injured by sudden thawing in winter, by too early excitement of the buds in spring, or too great heat in summer. The leaves will maintain their verdure better, the fruit will be less likely to fall, and the insects less likely to attack the tree.

The hardiness and duration of the apricot tree is greatly promoted by budding it on the plum stock. This stock, we find, is more enduring than the peach or the apricot in this climate, and less liable to suffer by the attacks of insects. We think the flavor rather finer, too, in fruit grown on plum stocks than on peach stocks.

The Curculio.—The last but the greatest foe to the culture of the apricot. In stony, loamy or clayey soils, like that of our own garden, the *Curculio* finds so much diffi-

culty in making comfortable winter quarters for itself, that we are seldom prevented by it from obtaining a good crop; but in light and porous soils, it increases to such an extent that it usually destroys nearly the whole crop of fruit, by stinging it, and causing it to fall when half grown.

Where only half a dozen trees are cultivated, there is no mode of making war upon this insect so sure and reliable as that of *jarring the trees* daily, during the month of May, with a pounder, (sheathed at the end with india-rubber, or something to break the force of the blow,) gathering the insects upon two sheets spread under the tree, and destroying them.

This may seem to many to be paying too dear for the whistle. But we think a serious calculation will prove that it is not so, even in an economical point of view. Our excellent correspondent at Poughkeepsie, (see p. 406,) whose statements we endorse for accuracy, states that, though previously unable to depend on his trees for a single apricot, after putting the *jarring* system in practice he actually obtained "*three thousand most beautiful and luscious apricots*" the first season of trial, from *five trees*. A few moments devoted to the task each morning, if the thing is taken in hand systematically, will carry the trees through safely; and the probability is, that after this is repeated a few seasons, the insect will become greatly diminished in numbers. *Now*, is the time to commence, and we counsel all amateurs who would eat apricots this season, to undertake the *jarring* system.

When apricot trees are to be grown on a

large scale, then the mode previously recommended by us, of planting the orchard near the hog-pen, where pigs may run at large for a certain part of the year, and thereby destroy the insects, is the best mode yet known.

It may not be amiss to say a word or two about the most desirable sorts of apricots, where only reliable sorts are to be grown. Such are, in our estimation, the Breda, Large Early, Dubois' Golden, and Moorpark. The Breda, an excellent flavored, small, round fruit, is very hardy, regular and prolific bearer, and altogether one of the surest to succeed in all soils and sites. Dubois' Golden—a native variety—is still more hardy and prolific, and, though not equal in flavor, still very good for the dessert, and excellent for tarts. As a profitable *market* sort, it stands at the head of the list. Large Early is the finest early sort, bears speedily and well, and in beauty and flavor is inferior to none at any season. Moorpark is the largest variety, very excellent, but the tree is usually only a moderate bearer.

To sum up all in a few words, plant your apricot trees in a cool aspect and in deep soil; keep their heads as low as possible—rather like bushes than trees; prune them annually by shortening-in the ends of the young wood; defend any exposed part of the trunk or main branches by the protective wash, and deter the Curculio by jarring the trees during the month of May. Advice about *what to do* with the baskets full of ripe, golden, ruddy-cheeked fruit, after it is obtained, is, we imagine, not needed by any of our readers.

DESIGN FOR AN OCTAGON HOUSE.

BY HENRY A. PAGE, BOSTON.

THE following plans, and the elevation which accompanies them, (see FRONTIS-PIECE,) have been obligingly sent us by Mr. PAGE, of Boston.

The plans deserve attention. They are evidently the result of careful study; and the arrangement is remarkably compact, and, in many respects, very convenient.

All our readers may not be aware of the economy of an octagon form over that of a square, in constructing a house. It is, however, very great; and were it not for the superior picturesqueness and variety afforded by parallelogram forms, the use of the circle or the octagon would be universal. But convenience, and the comfort of having a large space on the ground floor, are good reasons for large spreading houses in the country.

For town houses—or, more properly, *suburban* houses—situated in the environs of towns, but with an open space on all sides of the building, this octagon form appears to us admirably suited. The elevation may, of course, be raised to suit the taste of the proprietor; but the one given by Mr. PAGE, in a modified Italian style, is very well adapted to suburban architecture. ED.

The sketches of an octagonal house are original, and are believed to offer several very decided advantages over the usual forms.

A square house, with the same extent of external wall, contains far more superficial area than any other form now in use; but the octagonal enclo-

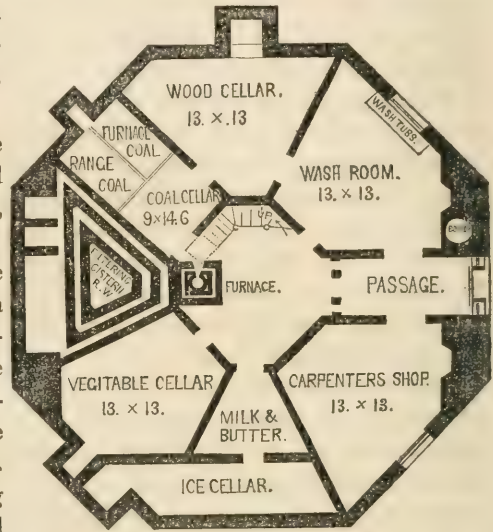


Fig. 112.—Basement.

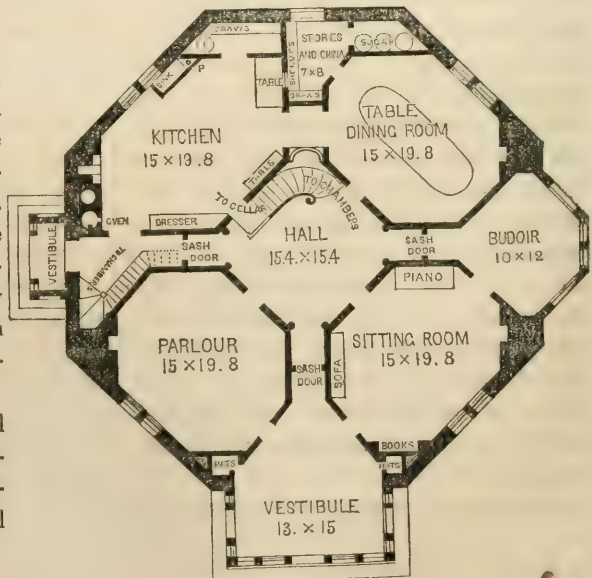


Fig. 113.—Principal Floor.

ses one-fifth more than the square, and costs no more for foundation or finish.



AN OCTAGON VILLA

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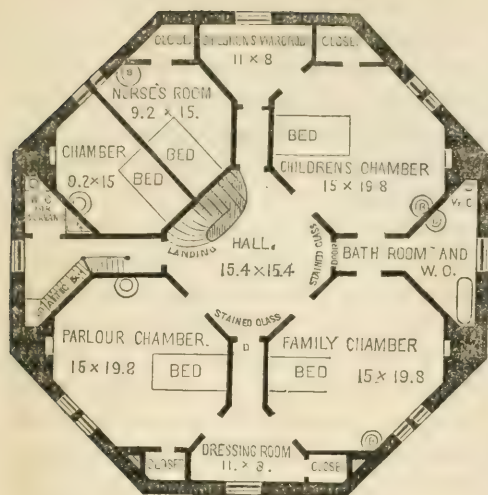


Fig. 114.—Chambers.

It offers less resistance to the wind, and therefore has far greater strength. The flooring timbers have short and solid bearing, are very firm, and by their arrangement contribute to the strength of the house; and the partitions, in foregoing plan, are so placed that it will be nearly impossible for the floors to *sag*, so as to cause cracks in the ceilings.

The chimneys and ventilating flues, carried up and the rain water carried down, from the roof, in the corners of the house, are, particularly if the house is built of bricks, comparatively inexpensive, add much to the strength of the edifice, and occupy space which does not injure the appearance, disturb the convenience, nor *lessen the size* of any apartment.

An octagonal house looks equally well from every point of view. Most other styles are disfigured by buildings attached to the principal structure for kitchens and offices.

Ventilation is very completely effected,—in summer, through the doors and windows, which open direct passages for air through the house across the hall; and in

winter, the furnace, with little expense, provides every apartment with a full supply of warmth, by registers opening from air pipes, concealed in the partitions of the central hall.

Octagonal shaped rooms are much easier lighted by night or day than square, or oblong square ones, and are well adapted to give a favorable light for paintings or engravings.

For a beach house (on the sea-side,) a piazza extending all round, of one or two stories in height, could be made; and if the central hall were lighted and ventilated from the roof, a very perfect ventilation and pleasing internal effect would be given to the hall.

The same plan, of 25 to 30 feet sides,

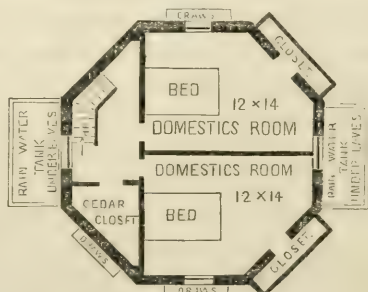


Fig. 115.—Intermediate Story.

instead of 20 feet, would be still more commodious, and could be modified to suit the fancy or wants of the owner's family.

An observatory, much less in diameter,



Fig. 116.

would be less expensive, and by some may be thought to look better; but the large one shown on the plan for billiards, dan-

cing, or for a children's play or school-room, the study of a professional man, an artist's studio, or an observatory, would be very large, light and airy; equally removed from all noise from the apartments below, as secure from disturbing the quiet of the two principal stories beneath.

The doors leading to the side and front vestibules, boudoir, bathing and dressing-rooms, &c., should be made with ground or stained glass sash doors, and thus give ample light, and a pleasing effect to the central hall.

The kitchen, drawn on the principal floor, may be placed in the basement, with the wood and wash-room, if preferred.

The hexagonal shape is stated to be, in the cells of bees, the most mathematically economical in attaining the greatest possible strength, and largest internal area,

that can be enclosed with an equal external wall. A polygonal structure, for dwellings designed for a larger family, could be made very convenient and more economical than square, parallelogram, or winged T, or L shaped houses; since the latter require so large an expenditure of external wall for their superficial area, and expose so large a surface to the elements. Those forms demand also a greater waste of area for halls and passages, and occasion a great loss of time, labor and convenience, in passing from the several apartments; while in the octagonal or similar form, access to all the apartments is easy. The area occupied by the hall is a good radiator and conductor of heat in winter, and is the least valuable space for living or sleeping apartments.

HENRY A. PAGE.

Boston, March 5, 1850.

REVIEW.

BULLETIN DE LA SOCIÉTÉ CENTRALE D'HORTICULTURE, *du département de la Seine Inférieure.* (Bulletin of the Central Horticultural Society, lower Seine district.) Nos. 4 and 5, for 1850.

WE have been favored by M. TOUGARD, of Rouen, the president of this society, with these Bulletins, showing the state of horticulture in that part of France.

The society appears to be in an active and flourishing condition; and we gather some interesting facts from the report of a special commissioner, regarding the market garden culture of France in a commercial point of view, which may interest our readers.

According to the statistical reports, there are in all France 51,000 hectares* of land, cultivated as market gardens. It is esti-

imated that the average product of these is 6,000 francs (about \$1,200,) per hectare, say in the rough, a total of 253,000,000 of francs, (about \$50,600,000.) Supposing 4 laborers to the hectare, we have 204,000 workmen exclusively employed in the market gardens of France. If we estimate the value of a hectare at 6,000 francs, we have a capital of 306,000,000 francs employed in market garden cultivation, and a capital of 408,000 francs, (say \$81,600,) paid daily for this class of labor. In this market garden culture, from four to six workmen are required per hectare, (about two men to the acre,) the labor of the master and mistress included. Their wages vary according to the season and the sex. In summer, the men earn 2 francs (40 cents) a day, the women 1 franc; in winter, the men earn

* The *hectare* is a little more than 2½ acres—(strictly, two and four-tenths of our acres.)

1½ francs, (about 30 cents,) the women 75 centimes, (say 15 cents;) the board is not included in the foregoing,—the workmen boarding themselves. In summer, work commences at six o'clock in the morning, and ends at eight in the evening for day-laborers; but the boys, or apprentices to the market gardens, are up at two o'clock A. M., loading their wagons with vegetables for the market, where it is necessary that they should arrive at three o'clock—the time when their sales commence.

The price paid for labor is the same in the nurseries as in the market gardens. Two men to the hectare is the usual force for general nursery culture, though for *cultures spéciales* the number is of course much increased.

It is easy to see that market gardening is not usually a very profitable business. For the masters, or head gardeners, the expenses are considerable, and the labor incessant. After having worked a great many years, if they have been industrious, sober, and economical, and if the expenses of the family have not prevented their laying up something, then they buy a little corner of land, (for they only *leased* what they have been cultivating all their lives,) build a little cottage or hut upon it, and die there in peace. Or if they have made considerable savings, they often invest it in a small stock of groceries, which the wife keeps and disposes of; and so they finish their old age. As for the common garden workmen, often improvident, and often unable to lay by anything from their scanty earnings, when old age or infirmity overtakes them, they are either taken care of by their children, or must be supported at the public charge.

To make this picture, furnished by the interests of the French market gardener, more complete, we must add that the re-

porter, from which we have extracted the foregoing, in urging the importance of some attention being paid by the government to this species of culture, says—"Is it not this culture which furnishes our markets with the vegetables which form the almost exclusive subsistence of the poorer class? The higher classes of society consume a great deal of animal food; unhappily, *the poor man gets nothing but vegetables.*" "Cast a glance," says the reporter, "on the quantity of market garden products, the extent of the land devoted to them, and the number of hands they employ, and you will be convinced of the importance of this branch of agriculture."

We have heard some complaints from our own market gardeners about New-York, who find their profits lessened by the facility with which steamers and rail-roads bring early vegetables from the south, thereby reducing the price of early peas and tomatoes. But they who will not work for less than 70 to 100 cents a day, who think the fare poor if there is not fresh meat at least once per diem, and who, if they are economical and industrious, may always save enough in half a dozen years to become the owners of the land they cultivate, will be thankful, when they read the foregoing account of the condition of market gardeners in France, that their lot is cast in a country where the demand largely outruns the supply. Happy America! May it be a long time before the women have to work in the fields, or the poorer classes must live on vegetables!

We may remark, on the other hand, that the secret of making the most of market gardening is not yet so well understood among us as in France; since we are told, that by dint of long experiment and practice, "*four and five successive crops per year are now obtained from the same soil.*" Of

course, we understand that the first crops are under hand glasses, and in hot-beds.

We observe that the progress of horticulture, in this country, is watched with interest in France. The account of the great triennial fête of the Boston Horticultural Society is quoted at some length, as affording a proof of how "horticulture is honored and patronized in the United States among the friends of order, learning, the arts, and liberty." It is mentioned in connection with this, that Col. WILDER, the president, (who is also honorary member of the *Société Centrale*,) is councillor of state in Massachusetts; and our friends across the water, who cannot rightly understand how societies can be so successful without government patronage, evidently look upon the civil honors held by our friend, the late president of the Massachusetts society, as a proof of some smiles of government bestowed upon horticulture.

We notice, also, that the *Horticulturist* is reviewed in very high terms of praise.

From a discourse, pronounced by President TOUGARD, at a large meeting of the society in April, we extract the following highly interesting account of a *horticultural colony*; in fact, a school for poor boys, who would otherwise be inmates of houses of refuge or correction, where they are not only make good cultivators, but excellent members of society. Gladly do we tender to the family of LECOMTE, who have devoted their lives to this noble and admirable work, the respect and thanks of benevolent hearts on this side of the Atlantic:

"In the midst of so many sources of sorrow, (brought about by the recent revolutions,) there is a horticultural establishment which, although it has suffered much, has offered to us a consoling spectacle, as a compensation for the evils we have elsewhere witnessed. I speak of the interesting horticultural reform-school of Petit-Quevilly, conducted with so much zeal, philanthropy and disinterestedness, by Messieurs LECOMTE—father and son—whom this society has so justly honored with

the gold medal. Such untiring devotion to the most incessant labor, such complete seclusion from the world, in order to become instructors of childhood,—and of such a childhood,—requires a superhuman effort, a truly heroic spirit, which alone is capable of such exertion and of such care. But the hope of restoring to society those young children, often more unfortunate than guilty, teaching them the road to virtue, changing their disposition from a vicious to a good and honest direction; what a difficult task! But it was not beyond the power and courage of its originator, since he has seen it crowned with the most complete success. To overcome all opposition, to vanquish prejudices, to win the assent even of his opponents,—such is the victory, morally and physically gained by the conductor of the school of Petit-Quevilly. But, in order to complete the picture of this interesting enterprise, we must place in the foreground a generous, self-sacrificing woman, endowed with a kind and feeling heart, who renounces the bright advantages and prospects with which nature and fortune had endowed her, to engage with ardor and self-denial in the beautiful and the great undertaking of her husband, and become the instructress of those poor and unfortunate children. It may be said that she became even more to them than their own mothers; for their own mothers had either abandoned them, or given them the most fatal examples; while their adopted mother offers them only lessons of virtue, wisdom and instruction; teaches them to distinguish good from evil, and develops their intelligence and humanity. Is it not, indeed, giving them a new life, more valuable than the one which they had, and were so likely to have abused? At the sight of this picture, of which I have only presented to you the outline, is not the name of MADAME LECOMTE upon every tongue?

"Since I began to speak to you of the horticultural school of Petit-Quevilly, I may be allowed to complete the account of it.

"As to horticulture, this establishment is truly a model garden. The cultivation of culinary vegetables, indispensable to the subsistence of the colony, is there taught and practiced, with the greatest advantage to the young pupils. Working gardeners are sent out from the institution, well versed in the art of pruning trees, and all the theories connected with it; and they readily find employment, which puts them out of the reach of misery and want, and all their accompanying dangers.

"The portion of ground devoted to horticulture consists of about 90 acres of kitchen and fruit gardens. The professors of arboriculture are Messieurs LECOMTE—father and son. The kitchen garden department is conducted by M. ROMAIN AVENEL, foreman. The number of children, in 1843, was only thirteen, and is now one hundred and nine. Let us hope, for the interests of humanity, that the number of these pupils shall be raised as high as possible; for there are not

enough of these establishments in France, and there is none which is so truly economical to the country. And, further still, let us compare this life of activity, of agricultural and horticultural labor and interest—these moral and instructive teachings—with the lessons of vice that children receive in the work-houses and prisons!!

"If we may be allowed to express a wish, regarding the instruction of these pupils, it is that the culture of seedlings, and of green-house plants, might be added to it, in order to complete the horticultural instruction, so that on leaving the establishment, the pupils might be able to undertake every kind of culture. Let us hope that the government will facilitate this by coming to the aid of the director.

"If we penetrate to the interior of the establishment, we should never believe ourselves in the midst of a house of correction or prison. What do I say? A prison? No, no, this name can never be bestowed upon it; here are no gratings, no bolts, no turnkey, no armed guards; here, all breathes of liberty; the bond which retains these children, is one of gratitude, and the attachment they bear to the directors for the benefits they receive, is, for them, an impassable wall. They are no longer prisoners: they are farmers—they are gardeners.

"A wise independence, prudently controlled, is granted them; they choose their superintendents, subject to the ratification of the directors; they inflict punishment, subject to confirmation; records and degrees are also conferred by them. Emulation, the desire of pleasing their chiefs and directors, are the motives of their action and their labors. Honesty, decorum and order prevail among them at all times; it is a new life into which these children enter.

"Judge, then, what a change it is for them! If a convict arrives in the city prisons, and destined for the reform school, he is brought to those prisons surrounded by armed men and received by jailors. How does he leave them? A child, one of the young farmers alone presents himself, bearing the order of remission; at sight of the ministerial decision, the prisoner is released to his young keeper. The former cannot believe his own eyes. "How is this," says he to his conductor, "no more guards, no more soldiers! Do you not wish to escape from this place?" "Oh no," replies the latter, "no, we are retained by ties much stronger than force and turnkeys; even by love and gratitude!"

"One of these new-comers, as yet, not accus-

ed to the kind of life which he cannot yet understand or appreciate, does he wish to escape by flight? Who would believe it? Then your farmers, *of themselves*, go to seek him, and bring back to the fold this stray sheep, who soon becomes one of the most faithful of the flock!

"A fire breaks out in the neighborhood; the doors are thrown open, and the young farmers fly freely to the assistance of the sufferers; you see them, these unfortunate children, rushing among the burning timbers, and saving from the flames the most valuable articles, which they are glad to restore to the victims of this disaster. Recalled by the sound of the horn, all blackened, and often wounded and ill, bloody feet, (for they have left their heavy shoes on the way in order to reach the scene of disaster more speedily,) you see them return and take their place in the Farmery, under the simple guidance of their adopted mother, happy in the thought of a little good which they have been able to do.

"Some misfortune, some great disaster occurs. A subscription, perhaps, is started to alleviate it. Our young farmers have nothing; how can they take part in it? They retrench their allowance some *centimes* every day, and this little saving combined, forms their contribution for the sufferer. Thus is misfortune succored by the unfortunate.

"Something is perhaps lost in the school, in the wood, or on the road. It is then, who shall be the first to find and restore it, for the mere suspicion of theft has become for them a frightful torment, and would fall equally upon all, since all are now united. When the lost object is found, the lucky finder comes back in triumph, saying as he restores it, "*Dieu m'a protégé!*"

"Such in short, is the interesting picture presented by this horticultural school. You can judge by these facts, what devotion, what zeal, what self-denial, what perseverance in this good and great work have been required to bring about these great and noble results. Our society takes pride in the thought, that the art of horticulture has, in some degree, contributed to the success.

"How happy also should we be made by the contemplation of this transformation of young children, who, placed upon the commencement of their lives on the highways of vice, and often crime, have thus been reclaimed and recalled to virtue by the counsels of this family, which has devoted itself to creating this new life for them! Honored be their names! for they have richly merited the homage of all friends of humanity and of horticulture."

FOREIGN NOTICES.

OVERGROWN CATALOGUES.—Once upon a time the great object of the English gardener was to make what he called a COLLECTION of plants. If he had a green-house he would have a collection of Heaths, or Pelargoniums, or Mesembryantheums, or Aloes; if the master of a stove, it was in that case his ambition to get together a collection of Passion-flowers, or Ferns, or Ixoras, or something of the sort. If confined to an acre of ground he would have a collection of apples, or pears, or gooseberries; the owner of a few rods of land would be content with a collection of peas, or lettuces, or potatoes. In any case, a collection was the great end to be attained. In forming these collections men did not consider whether the plants were useful or useless, handsome or ugly, different or identical; all they wanted was a long list of names; and a proud man was he who could say that he reckoned a larger collection of gooseberries, or apples, or potatoes, than his neighbor. The addition of a "seedling" or two, of his own raising, elevated him to the summit of horticultural happiness. *Felix ter et amplius!*

We have heard of one gentleman who numbered 1200 roses in his list, among which were about 350 wild briars, some of which had a little hair on their leaves, and some had none, some had double teeth, some had single, one sort had ovate hips and another oval, and so on. There exists we believe to this day a collection of Pæonies formed upon the same enlightened principle; and we have no doubt that similar collections of Daffodils, Michaelmas Daisies, or Catmints, may be found in some sequestered garden.

This harmless folly, like many other crotchets, destitute of all elements of longevity, could scarcely exist, one would think, in this utilitarian age. We are therefore witnessing at the present day collections giving way to selections; "hard pruning" applied in all directions to those old bushes of barren half dead wood; and a few select plants, thoroughly well grown, replacing the empty pots and moribund sticks which invariably characterised the collections of our worthy forefathers and their ancient sons as long as they remained among us. It is therefore not a little curious to find a race of worthy men still unconscious of the change in public feeling, and continuing to publish interminable lists of this and that, as if the rage for collections was as fresh as ever.

Some recent lists of nurserymen and seedsmen afford amusing examples of this. One grower of roses offers 607 sorts of that flower; another, 850; a potato salesman's catalogue has 160 sorts; a Dahlia-grower's 3 or 400; a Geranium-grower's, as many; a seedsman invites attention to his 38 sorts of cabbage and 61 sorts of peas!

Can extravagance go further than this? Should

any one be surprised at the murmurs which are just beginning to make themselves heard on the part of buyers, or that a host of rose lovers should already have arrayed itself on the side of our correspondent "Crito?" Do the gentlemen who offer these wares to the public seriously think there is common sense in thus bewildering their customers? that the names under which their "sorts" are sold indicate real differences of quality? The idea is absurd. Sixty sorts of peas! Why, there is not a dozen really worth growing; the rest are little more than fudge. We should be curious to know how many sorts of these peas are provided from one bag of Charltons, bought of one of the great London seed merchants. It would be worth while for an idle man to get a complete set of such peas, to raise them, compare them, and report the result for the public good.

In this respect buyers are greatly in want of such a guide as the French possess in their invaluable "Bon Jardinier." There we find the whole number of peas, reputed as distinguishable, to amount to 34, and of these many are distinctly shown to be of no importance. Perhaps we may make it our own business to put an end to the absurdity belonging to English vegetable seed lists.

It should always be borne in mind that, to render a variety worth permanent cultivation, it should possess some peculiar quality in which it distinctly excels all other varieties previously known. To distinguish it merely because it is "a seedling," as some do, is sheer anility. Those who are every year bringing forward what they call novelties are bound to show that they have been proved by competent judges to be not only different from, but better than anything previously known; and if buyers were wise, they would refuse to purchase in the absence of satisfactory evidence as to this point.

What is true of mere varieties, such as those of common kitchen garden plants, is equally true of the species belonging to classes holding a more aristocratical position in vegetable society. The possessor of a park admires the magnificence of the Conifers which he sees in the possession of his country neighbor. Let him set about forming a collection of Conifers, and what does he get? many magnificent kinds, some of very inferior beauty, and many of no interest whatever. The latter ruin the appearance of the others, and the effect which was looked for is marred. Take, for instance, a very good list of Conifers now before us; who is there that would wish to become possessor of such pines as those called *monophylla*, *tortuosa*, *pungens*, *mitis*, *inops*, *Banksiana*, the tag-rag and bobtail of the race? In this, as in all cases, a selection is admirable, a collection an

absurdity. So with Orchids, now much and deservedly the fashion. In that glorious order are found species of the most brilliant colours, the most exquisite perfume, and the strangest forms—each class admirable in its peculiar way. But the cultivator who proceeds to fill his house with these plants will be much deceived if he imagines such qualities to be universal, or even usual, in the race. About 2000 species are known to us, with a legion of varieties, and certainly there cannot be more than one-sixth of that number which will repay the grower for his trouble. In the great genera of *Epidendrum*, *Catasetum*, *Dendrobium*, *Oncidium*, *Pleurothallis*, *Stelis*, *Oberonia*, and *Maxillaria*, are to be found swarms of species which would be thrown out of a bit of rock-work in a flower garden, if they could be cultivated there. He then who spends his coin in making a collection of Orchids, will be inevitably disappointed; he alone who forms a good selection will be rewarded.

We need not say that these remarks are made with reference to horticulture, and not to botanical researches. The cultivator has one object in view, the botanist another; and it will often happen that the qualities which interest the one in the highest degree are precisely those which the other disregards. But such botanists are not buyers of live plants; their herbaria are their gardens, and very satisfactory ones too. It is therefore clearly the interest of nurserymen and seedsmen to take off their botanical spectacles, and to look at what they sell with the same eyes as their customers. They will cultivate that only which is worth cultivating; they will catalogue those things only which a buyer ought to buy; all the rest they will relinquish to the student of the "Curiosities of Horticulture." If they will do that, we shall soon see the lists of plants and seeds cut down to reasonable dimensions, and they will no longer be, as many of them now are, mere mazes, in which one could not find his way even with the clue of an *ARIADNE*. *Lindley's Gardeners' Chronicle*.

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VINES IN POTS—Repeated applications having been made for information concerning vine forcing in pots, we now take up the subject, and, in doing so, it will be requisite to defer entering into the whole course of culture necessary as a preliminary proceeding at the present moment, on account of the period we write for, knowing that many persons, who have established plants by them, are anxious for a little practical advice. In a short period, we hope to resume the subject, and we shall trace the culture of the potted vine from the "eye," or cutting, up to the forcing period.

Preparing Plants.—We may now suppose that the forcer is in possession of good strong fruiting plants, and that they have been wintered securely, that is to say, have been kept tolerably dry, and not subjected to very severe weather; also, that they

had been pruned in the autumn. Before introducing them to heat, it is well to dress their shoots after the manner of those in the hot-house up the rafters; a plan which, although not indispensable, is of some benefit, as tending to prevent the hatching of any insect eggs which may be deposited on their shoots, for such is almost sure to be the case. The mixture generally used is made by beating up soft soap in warm water, at the rate of about five ounces to the gallon, and then adding at least one pound of flour sulphur. It is well, also, to thicken it by some means to the consistence of thick paint, and, to this end, we use clay. As much clay, then, may be added as will accomplish this, and the whole being thoroughly blended, may be applied with a painter's brush, plastering it all over the wood, and into every chink or crevice. This done, we recommend that each end, where the pruning knife has operated, be daubed with thick paint, or white lead; for strong young vines are apt to bleed on being introduced to heat, and this effectually prevents it. Care, however, must be taken that the wounds are perfectly dry when the paint is applied, or it will not adhere perfectly.

Soil.—The next point is to examine carefully the state of the soil, both at the surface of the pot, and at its bottom. As to the surface, some portion will be found worn out, of a loose or powdery character, and containing no fibres. All such should be removed with a pointed stick, loosening and emptying out all containing no roots, and replacing it with a powerful compost. If much is removed, and there is consequently room for much compost, we would advise the use of lumps of turf, which should have been cut a few months previously, and which had been dried in some shed; this should be in pieces as large as a middle-sized potato, and much of the loose soil, being dry, should be shook out. With this, a finer compost may be used, composed of sound loam and good rotten manure, adding some small charcoal, and some fine bone dust. The manure should be good. Cow-dung, mellowed by age, or old night-soil, will be found highly useful. In filling up the pots, the turfy lumps should be placed first, all over the surface, and the finer compost shook over and amongst it, taking care that at least two inches of the finer compost surmounts the turfy lumps. This is a necessary course in all top-dressing affairs, where porous turf is thus used; the finer compost acts as a regulator or controller of the moisture of the turfy material, which, without this, is apt to become suddenly dry, and to act fitfully. And now the bottom of the pot must be examined, in order to see if no obstructions have taken place in the drainage. We should, however, have advised this to be done before adding the fresh top-dressing, as turning the pot or tub on one side for this purpose, would be apt to disarrange the top-dressing, which, once fixed and pressed down, should remain without disturbance. Any lodg-

ment in the holes of the pots should be picked out carefully with a spike-nail, or sharp pointed stick, and if obstructions should be suspected beyond the reach of this procedure, the ball must be turned out, and any extraneous matter from worms, or other sources, carefully removed, taking care to adjust the crocks, or other drainage materials, at the same time, in order to facilitate the free discharge of water, *without which, it will be absolutely impossible to obtain success.* If the turning out can be avoided, all the better; for one of the worst faults attending this, is the difficulty of placing the ball in precisely the same position again, which is very necessary, for, in the event of a change in position, there are sure to be many open cavities, down which the water will be too apt to escape in subsequent waterings, to the desertion of the ball, through which it should be made to percolate in an even way. An old practitioner—one used to the potting bench—can readily replace a ball in its old position; it is, nevertheless, a rule-of-thumb affair, only acquired by long practice.

Commencing Forcing.—All these things being accomplished, the plant is now ready to be introduced to a warmer climate; and here we must pause to ascertain what situations are available, and, also, what conditions are necessary.

Bottom-heat.—Whatever situation may be chosen for the vines ultimately, it will be of eminent service, if, in their earlier stages, at least, they can have the advantage of a moderate bottom-heat. We are quite aware that not every one can comply with the conditions here laid down; still, in offering advice we do not deem it a duty to compromise principles of importance, but rather to point to what, we conceive, is the highest course of culture. Bottom-heat is now beginning to be considered a valuable adjunct even to outside borders, where the roots have free liberty to range for food: how much more so, then, for vines in pots, where, from the very limited supply of food, every means must be taken to obtain an active root, and to keep it so; and where a sudden check is almost sure to prove fatal to a really successful issue? It is, however, not so much in any precise amount of bottom-heat alone that reliance must be placed, but in the relation that amount bears to the average atmospheric heat.

Light.—The amount of light, as we have before observed, is the guiding-star of this and all other forcing matters, where elaborative processes have to be carried out; such things as sea-kale, asparagus, &c., forming an exception: here, mere development of buds already organised is sought. Such being the case, the amount of bottom-heat which might be recommended for May or June, would by no means be the most eligible for December or January. As a guide to the amateur, we would, then, suggest that three distinct periods might be considered as comprising the history of vine-forcing in pots—from the commencement

of the process to the complete ripening of the fruit. These we would thus divide:

1st. From the commencement to the blossom showing.

2d. From the latter to the beginning of the stoning process.

3d. From the stoning to the ripening.

We find that we have been drawn rather too deep into the subject for a single paper; we must cease pursuing abstract principles, and come to details.

Temperature.—During the whole of the forcing, it is our firm persuasion that it would be well for the root to be situated in a medium, three or four degrees warmer than the average atmospheric heat. Vines in pots, to be introduced now, should, during the first period, have a bottom-heat of about 70°, whilst during this stage, the atmospheric heat need not by any means exceed 60°—indeed, 55°, until the leaf begins to unfold, would be better. It will be seen here that the object is to get the root into action somewhat before the top, in order that the buds may develop with freedom, and escape what is termed “blindness,” which, although not caused by the want of such precautions, is much aggravated by improper treatment, or by neglect.

By the time that the bunch is to be seen, the tactics must, in some degree, be changed. An atmospheric temperature from 65° to 70° must be secured by day, falling to about 55° or 58° by night; the bottom-heat, also, if possible, advanced in a like ratio.

As the season advances, and the second period begins to merge into the third, much atmospheric advance by sunshine may be allowed. A thermometer rising to 85° in the afternoon, on bright days, will be beneficial.

Atmospheric moisture must, of course, abound during the first period; and, until the vines break, little ventilation, unless to keep down heat, will be requisite. Afterwards, however, a free, yet cautious, ventilation much benefits them; rendering the whole plant more robust.

Training.—Whether plunged, or, as is oftentimes the case, set over a back flue, or on the kerb-stones of pine or other pits, care must be taken to train them carefully up, in order to present as much perfect foliage to the light as possible. Some “stop” one joint beyond the fruit, as with rafter vines; we think, however, that two or three joints will be found better. After this stopping, the secondary shoots should be allowed to range a little; never stopping or disbudding all at once, but always keeping some point or points growing; thus will fresh fibres be constantly kept a-going—a matter of some importance.

Watering.—This is a most material item in pot-culture; so much so, that injudicious watering will soon ruin the crop. Presuming that the pots are thoroughly drained, they will take water liberally; especially if unplunged, and over a warm flue. When really getting dry, enough water

should be given to moisten the ball entirely through; and we advise the constant use of liquid manure, from the moment they are out of blossom; using it weak, and perfectly clear. A brewing of soot-water in one vessel, and good Peruvian guano in another, will furnish a capital liquor; the guano at the rate of two ounces to a gallon, adding a gallon of soot-water to a gallon of the guano-water. It should always be given of a temperature quite equal to the average temperature of the house. When plunged, the pots will not require above half as much water. We will return to pot culture when we get an opportunity. *R. Errington. Cottage Gardener.*

DAHLIA PROPAGATING.—Some of our florist friends, eager to increase their stock of choice Dahlias, will, by this time, have set them to work—that is, to grow. We do not recommend starting them so early. "More haste less speed," is a proverb equally applicable to Dahlia-growing as to any other pursuit in life. We conceive that now is quite early enough to start these gorgeous autumnal flowers. The best place to start them in is a pit, or frame, heated either with dung-litter, well mellowed by turning it over frequently previously, and putting it then into the pit when the fierce heat is moderated; or the pit may be filled with tanner's spent bark, and the roots laid upon it. Upon the dung lay a covering of ashes, or sand, previously to putting in the roots. In this warm, moist heat, the roots will soon send forth shoots and new roots. As soon as the shoots are three or four inches long take them off, and put them into small pots half filled with earth, and then filled up with fine white sand. Give them some water to settle the sand; the cuttings then may be put in, and will soon take root.

The great art in the management of Dahlia cuttings after they are struck, is to give them just such a quantity of air as will enable them to make dwarf stout plants, without actually starving. Dahlia cuttings should never be allowed to stop so long in the pots as to fill them with roots in a dense mass. It is the greatest absurdity to expect plants that have been cramped in their early youth to make strong healthy fellows afterwards. By no means then, nurse your young Dahlias too much. This observation applies to those that are growing now, or have been growing for some time, as well as to those that are yet to be propagated. Continue to secure them from frost, and no more; too much heat or stimulus, at this early period, is very injurious. *T. Appleby. Cottage Gardener.*

RAT'S-BANE, PROPERLY SO CALLED, A SETTLER FOR THE MILLION.—For the benefit of all who may hereafter fall victims to the rapacity of rats, I will now, as briefly as may be, lay before them my military tactics, and explain how I finally brought up my *corps de reserve*, which

gained me a decisive victory. Instead of commencing hostilities at once, on discovering the extent of the ravages committed, I gave encouragement to the enemy, by throwing in his way divers articles of food, such as dripping, lard, meat, bones, fish, and other dainties. This gave him confidence, and threw him off his guard, so that he revelled unsuspectingly among all the good things of this life, while I was secretly plotting his destruction. I took care, meantime, to secure all the hen-houses, and shut the inmates up every night, to protect them from their blood thirsty foe. The great field-day was Friday last, a day I shall long remember. I devoted it entirely to strategy; and, *Nil actum reputans dum quid superesset agendum*, I completed all my arrangements before the hour of dusk, impatiently waiting for the rising sun of the morrow. Poison was my weapon; fresh herrings and sprats were my aides-de-camp. The poison was carbonate of barytes, ground to an impalpable powder, and phosphorus. An incision was first made in the backs of the herrings, and the carbonate of barytes well rubbed in. The parts were then, as artistically as possible, reunited. The sprats being smaller than the herrings, and more plastic, were pierced through their sides with a sharp piece of deal wood. Had a knife, a fork, or the human hand touched them, all would have been vain. The barytes was then "drilled in," and other sprats, not poisoned, were placed above and below them, so that suspicion was disarmed. "*Za-tet angus in herba!*" It should be borne in mind that the barytes is without taste and without smell; hence its great value. The way in which I applied the phosphorus would take more space to detail than you can well afford in one number of your paper. At a future time, I will gladly furnish particulars of this, and other interesting matters, connected with my recent experiments, for I have been both a "sapper" and a "miner!"

When the preparations were all completed, I stationed my trusty messengers in every part of the garden and shrubberies—some under trees, some in flower-pots, some hidden by a brick, others partly imbedded in the garden walks, &c., &c. They "did their bidding" right bravely. On coming down stairs, the morning following, I found the enemy had fallen into the snare. There was a serious diminution of the provisions furnished for their repast, and the hand of death was observable on every side. They had eaten ravenously; they had been seized with cruel thirst; they had sated themselves with water; they had "burst their boilers!" To use an expressive, and most appropriate classical quotation, there was a visible "*Decessio pereuntium—successio periturorum*," which clearly proved I had won the day. In a word, two days and two nights effectually routed the whole army, and I was left master of the field. If it be urged by some, as perhaps it will be, that I am cruel, consider the aggravation, an unpro-

voked and brutal attack upon a large affectionate family of sleeping innocents, who were ruthlessly snatched from their beds at midnight, torn limb from limb, and their agonized bodies crunched; aye, "crunched" is the word, between the fangs

of murderous assassins. Oh! "had they ten thousand lives, my great revenge has stomach for them all." *William Kidd. Sanders' Cottage, New Road, Hammersmith, February 5. Agricultural Gazette.*

DOMESTIC NOTICES.

SPECIAL MANURES.—Our amiable contemporary, Mr. HOVEY, of Boston, who is remarkable for the pertinacity with which he stands still, while the age moves on, and who presides over the past, in Horticulture, like some solemn Sphinx that once told how high the tide rose in Egypt, but has long ago been left high and dry by the progress of the ages, cannot, with all patience, see how there can be any value in special manures. In his last "Retrospect of the progress of Horticulture," he has the following neat paragraph:—

"Mr. DOWNING tell us, with much dignity (etc.)—that the sole cause of the cracking of the Doyenne pear, is from the fact that the soil is exhausted of its mineral substances; and that a bushel of peat, half a bushel of wood ashes, and a few bones, with perhaps a little iron, will quite renovate a tree. This theory may answer very well for beginners in gardening, but every practical man knows," &c.

As we do not know a single intelligent horticulturist in America, who, after the discoveries of the last ten years, has any doubts of the value of special manures, except Mr. HOVEY, we do not think it worth while to go into any scientific demonstration of their value. It would be as superfluous as to attempt to prove steam a motive power. But *facts* are stubborn things, as "every practical man knows," and we therefore give an extract from a private letter lately received from a member of the Albany Horticultural Society:

"During the year 1847, Mr. JOHN S. GOULD purchased part of the "Bleeker Garden" in this city (Albany). On it were growing several old white Doyenne (Virgalieu) pear trees, the fruit from which was nearly worthless, being cracked, *knurly*, and small. Being a subscriber to the Horticulturist, he had read the article on "renovating an outcast," which is published in volume 1st, page 225, of that magazine, and determined to follow the directions given in it. He did so, and the evidences of the good effects of such course of treatment were apparent the succeeding season, for the pears, instead of being cracked and worthless, as insignificant in size as they were previously, *took the premium* at the exhibition of the Albany and Rensselaer Horticultural Society, (see published report) as "the best and most beautiful pears on exhibition." They took this premium when some of the most beautiful specimens of the finest cul-

tivated varieties—as Beurre Bosc, Williams' Bon Chretien, Flemish Beauty, &c., were on exhibition. They were certainly the fairest in appearance, as well as the *largest in size of any White Doyennes* I have ever seen. The specimens to which I called your attention last fall at the Pomological Congress in New-York, you may remember, were very fair and beautiful—they were from one of those renovated trees." *Yours, &c., *. Albany, April 10, 1850.*

To the foregoing simple statement we will only add that Mr. GOULD's pears from these trees attracted unusual attention as being, amid all the great collection of fruits shown at the Pomological Congress, the most beautiful pears shown. If the result obtained by *special manuring* those old pear trees, which, after having once borne fine fruit, had for many years become worthless from sheer exhaustion of the necessary elements in the soil, is not satisfactory proof, then such proof is impossible.

It is possible that some persons have been disappointed in the result of their experiments with lime, ashes, &c., simply because they have given a *sprinkling* of these over the surface of the ground. But in every instance where the needful elements have been judiciously applied and incorporated with the soil, and especially when, as in Mr. G.'s experiment, the old soil was renovated and new soil given, the effect has been such as our correspondent has just detailed.

.....

THE BEST VEGETABLES.—The very best early pea, out of eight new sorts tried by us last season, was the Prince Albert. It is about five or six days earlier than the Early Frame or Washington. Champion of England is a new pea, a liberal supply of the seed of which was sent us last season by Mr. BOWDITCH, seedsman, Horticultural Hall, Boston. It grows about five feet high, and produces an early crop; the pods are well filled, the peas large and *very sugary* in quality. When dry, these peas have a bluish colour. Altogether this pea is the finest of the table pea that we have cultivated, and will undoubtedly become a favorite. We notice that it ranks very high in England. The *Bassano* beet is not only the most tender and delicate of early beets, but when sown for a late crop it is also the best winter beet for the table. 'Cole's Superb Celery is the best red, and Seymour's White

the best white celery. The early and late Walcheron Cauliflower turns out, after two years trial, the best sorts yet proved in this country. White Spanish, is the best onion for all purposes. The Altringham is the best carrot, and the Autumnal Marrow the best squash grown.

A SPRING RECORD.—It would be a very considerable assistance in adopting rules to practice, in all kinds of cultivation carried on in the United States, if some definite standard of the advance of the spring could be recorded and published from all the principal districts of the Union—so that any one could see at a glance what the relative state of the season is in his district, as compared with that in other districts farther north or south.

Hon. J. R. POINSETT, of South Carolina, has sent us the following suggestion for this purpose, which meets our approval. We shall be glad to receive reports based upon it from any parts of the country:—

"It has occurred to me that if the flowering of the common Dog-wood (*Cornus florida*) were noticed in every part of the United States, for a series of years, it would furnish a correct estimate, or at least a very near approximation, of the difference of seasons throughout the country; for the dog-wood grows from Maine to Florida, from the sea-coast to the mountains, and blossoms everywhere in the early spring. This season, in our neighborhood, (Greenville, S. C.) it began to put forth blossoms on the 15th March, in sheltered places, and was in full bloom in the woods on the 25th of March."

The dog-wood is not usually in full bloom with us on the Hudson till the 1st week in May. The peach and cherry trees are usually in blossom the 3d week in April, but the season is at least ten days later than usual when we write this notice, (April 18.) ED.

HARDINESS OF PLANTS.—We shall be glad to receive from cultivators, in various parts of the country, memoranda of the way in which various shrubs, trees or plants, lately introduced, have withstood the winter.

In our own grounds, *Weigela rosea*, *Spiraea prunifolia*, pl., *Budleya Lindleyana*, *Torreya taxifolia*, and the *Deodar Cedar*, have stood the winter without the least protection.

Araucaria imbricata, *Cryptomeria japonica*, *Clematis Sieboldtii*, and *C. uzurea grandiflora*, have done well, only covered with a few boards, and may, probably, prove quite hardy. *Cupressus sempervirens*, treated in the same way, is considerably injured. *Abies Smithii*, *Picea cephalonica* and *Pinus excelsa* are also perfectly hardy.

TEA ROSES.—This delicious class of roses is, it is well known, too tender to bear our winters. When covered like the other China roses, they are usually destroyed, or so much injured, north of New-York, that they are of little value. Usually,

therefore, they are taken up in the autumn, potted, and put in frames, or the green-house, till spring, and then re-planted in the beds.

Last winter we tried the experiment of placing a large rough wooden frame, about 12 by 4 feet, and 2 feet deep, over a bed of the roses. This was done about the middle of November. The frame was covered with old sashes, and over these about two or three inches of straw. It was neither opened nor examined till the first of April. On removing it, about the middle of April, we found all the plants in the finest order—not in the least injured by the winter—and have no doubt that they will bloom much more finely than when lifted and potted in the ordinary way. By planting Tea roses in masses or beds, they can be easily and perfectly protected in this way, without disturbing their roots.

HOW TO WINTER CARNATIONS.—There is perhaps no plant which is a greater favorite than the Carnation, and which is on the whole cultivated with so little success in this country. The main

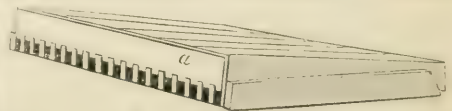


Fig. 117.

difficulty, it must be confessed, is in keeping the plants through the winter. When taken up, put in pots, and kept in frames or green-houses, they are liable to so many casualties that there are few gardeners who maintain a good collection for five years together.

What we want, is some *easy mode* of keeping the plants through the winter in the open border. Such a mode we hit upon last November; and the success is so complete that we hasten to lay it before our floral readers.

Let us suppose your Carnations growing in the beds in the autumn,—the layers still attached to the mother plants. At the approach of winter, take any common box, six inches or more deep, wide enough to cover the bed, and minus the lid or cover. Turn this box over the bed of Carnations; if the bed is large, it will require several boxes. Raise the box, *on the north side*, about three inches, to admit air and light; and in order to prevent mice from entering and devouring the plants, drive down stakes all round the opening, *a*, (see fig. 117,) close enough to prevent their ingress, while the air and light will still be admitted.

The box remains over this Carnation bed till April, or when the spring weather becomes settled. Then it is gradually raised, and finally taken off. The plants are in better health than we have ever seen them when preserved in frames—not the least *drawn* or weakened. All that remains now, is to prepare a fresh bed, take off the layers and plant them. In this way, the Carnation may be cultivated by everybody with very

trifling care; and probably the same mode of protection will answer perfectly well for the Auricula, double Primrose, &c.

.....
AGRICULTURAL IMPROVEMENTS.—Our old friend LEWIS G. MORRIS, Esq., of Mount Fordham, Westchester co., N. Y., has sailed in the Europa, to attend the great sale of short-horned stock of the late THOMAS BATES, Esq., of Yorkshire, England. Mr. MORRIS' visit is made solely with a view to the improvement of our stock by introducing whatever may appear to him best adapted to the wants of the middle states; and his importations, if he makes any, may be seen at the second annual sale at Mount Fordham, in October, 1850.

.....
SUBSCRIPTION FUND—RARE PLANTS. *Dear Sir:* I have read with interest ELLWANGER and BARRY'S letter to you, on the subject of sending a Botanical Collector to Oregon, California and New Mexico, to collect for us seeds and plants, vegetables and fruits, from these regions. In Scotland they have established an association, of about \$25 a share, to raise a fund to send out a scientific person to collect all new plants, of every kind whatever. Now, there are many persons who will, from merely liberal motives, subscribe \$25 for such a subject, who do not want to draw their quota of things procured, for themselves. Who would not give more than \$25? Let the subscription, therefore, be fixed for \$25 per share. I will take four shares, say \$100, for two years—\$100 a year; but for sufficient reasons do not want my name mentioned. Please call the attention of the public to this subject. We ought to collect enough means to employ a clever Botanist to go on this excursion for one or two years—the latter time is preferable. With respect, yours, &c., H. C.

The above is from a gentleman who is an ardent patron of horticulture, and a man of wealth, in New Jersey. The subscription is thus opened with two names, each for \$100. If the Horticultural Societies, nurserymen and amateurs will come forward, the necessary means for this really excellent project for enriching our gardens may be soon carried into execution. Ed.

.....
THE SUBSCRIPTION.—*A. J. Downing, Esq.*—*Dear Sir:* I admire the spirit of B. and E., of Rochester, in offering \$100 to aid in sending off a collector to the Oregon territory, or north-west coast. We must begin with seeds and nuts, if we wish to grow trees. I am a contributor to the collector now forming in Scotland, and will cheerfully subscribe \$100 to a competent one from this, in whose ability practical confidence can be placed. Yours, R. Buist. Philadelphia, April 18, 1850.

.....
THE HYDRANGEA—ITS PROPAGATION.—We are already aware that the Hydrangea is of uncommonly easy culture, yet I think under my method it may be still made easier, which is as follows: After your old parent plant has done growing, and

the wood is well ripened, you can then lay them in a cool cellar or shed; giving them a little water occasionally, until such time as you want to start them, say early in February. They can then be cut back to nearly the surface of the pot, at the same time saving every piece of wood, or selecting the strongest. Of course you are aware the Hydrangea is double jointed, that is, having an eye or bud on each side of the stem, exactly opposite each other. If profit is the object, and you wish to make as many plants as possible, cut up the wood in eyes about two inches long; then split or cut each portion lengthwise in the middle; you will then have an eye to each piece. Next take out the pith with the point of your knife, at the same time having pans or small boxes ready with good drainage. In the bottom fill up with stuff suitable for growing the plants, to within about 1½ inches of the top; then insert your eyes with the bud up, and cover half inch deep; then set them, if convenient, in a hot-bed, where they will have a little bottom heat; and by this method you will not lose one eye out of five hundred. After they are rooted, which will be in about four weeks, pot them off singly into small sized pots, and keep shifting as they grow. They will get handsome and well grown plants at a comparatively small expense. Yours, &c., John Galvin, Gardener to O. W. N. Towne, Esq. Somerville, Mass., April 3d, 1850.

.....
OSAGE-ORANGE HEDGES.—The third question in the "budget of queries" of your correspondent from this State, in the April number, induces me to mention what I learned not long since from an intelligent French commercial gardener of this neighborhood—that he avoids the extreme spreading of the roots of the Osage Orange, when used as a hedge, and the consequent exhaustion of the soil, by stretching his garden line parallel to the hedge, say at a distance of four feet from it, and, with a sharp spade, cutting off the roots. This does not require more than five minutes time for fifty feet of hedge; and may be done every other year, as soon as the frost is out of the ground.

If the ground is cultivated on both sides, you may cut on both sides; or if it be necessary, only on one. Where the hedge is set on a road, for instance, you may cut off the roots to even less than four feet without injuring the growth of the hedge; which, of course, will look for nourishment mainly where it is allowed to grow at will. H. J. Philadelphia, April 10th, 1850.

.....
WINTERING VERBENAS.—*Dear Sir:* Knowing the great interest manifested by the readers of your most valuable journal for anything new, that has been tested by a fair trial, either in horticulture or floriculture, and that may be a benefit to them, I am thus induced to give you the results of my little experience in wintering Verbenas. In the fall, when I potted my Verbenas, several of the largest which were raised from seed, were left in the ground; but regretting to lose them,

(being very fine, strong plants.) I placed a hot-bed frame over them, had the sides well protected, and the glass covered with mats. In mild weather the mats were thrown off,—giving them plenty of light, but little sun. During one or two severely cold nights in the early part of the month, when the mercury ranged from five to eight degrees below zero, the ground was considerably frozen, but the plants remained unimpaired. They are now looking finely, and promise well. Whether they can be sufficiently protected every winter in this rigorous climate, is doubtful; but I would recommend its trial, it being attended with so little trouble. I should add, that the idea of trying this method was borrowed from your Washington correspondent, who wintered them successfully last season; but the climate of Washington, it must be remembered, is widely different from that of Berkshire. Yours truly, *Theo. Clapp. Pittsfield, Mass., Feb. 21, 1850.*

[We are greatly pleased and surprised to hear of Verbenas standing five to eight degrees below zero of Fahrenheit. Will our correspondent have the goodness to say if they remain uninjured, and start vigorously in the spring? Ed.]

THE FIRE-BLIGHT.—Were it not for a very popular error, (as I conceive, at least,) into which many of your readers have fallen, and for the purpose of awakening continued diligence in close and attentive observation upon this subject, as occasion may offer, I should much rather remain a silent reader of your interesting journal, than bring my humble experience before your intelligent readers. But it seems that many of your correspondents have settled down upon the premises, that the *fire-blight of the west*, and the *frozen sap-blight* (if there really be such thing as frozen sap-blight, which I very much doubt,) are identical; that is, the fire-blight, so called, as it makes its appearance during the summer, is nothing more nor less than an effect following a cause that has preceded it some months, viz., the sudden freezing and thawing of the sap during the winter. I am aware of the difficulties attendant upon disproving the ably written theory of Mr. BEECHER upon this subject, by an unlettered person, like myself; but nevertheless, practical observation and experience sometimes will prove or disprove what we may not be able to do by words. To such as believe in frozen sap-blight being identical with fire-blight, I offer a problem for solution. I have two successive seasons, during the month of July, lost at least 1000 pear seedlings that had not vegetated until after the frosts of spring were over. They came up about the 1st of May, grew finely, until about or near the 1st of July, when they began blighting; and by the middle of July there were more than one-third of them dead. This was the case for two seasons successively. I have also frequently noticed pear suckers which had sprouted from the roots of larger trees, after the effects of spring frosts were

over, die before the middle of July from the same cause. I have closely compared those blighted, both seedlings and suckers, with the branches of the larger trees that were blighting around us at the same time, and could see no difference in the effects of the disease upon the one or the other, in all seasons of blight that I have observed. We have, just previous and during the season of blighting, frequent warm showers, unattended generally with lightning, but followed successively by hot sunshine, and apparently humid atmosphere,—causing excessive luxuriance in vegetation. The blight with us has not been confined to the pear alone. The *Rhus cotinus*, the Ring willow, and one or two other shrubs, have suffered more or less during seasons of blight,—being affected in the same way as the pear in every respect. The years of blight, alluded to above, were '46 and '47. The past two years we have suffered but little. Yours respectfully, *J. C. F. Cincinnati, Feb. 19, 1850.*

BEAUTIFUL NATIVE PLANTS.—*Dear Sir:* Please to insert the subjoined list of native flowering plants, by way of *addenda* to Dr. Com rock's excellent paper, on "the beauty of our indigenous plants," in your last number. With the exception of half a dozen species, they may all be obtained within five miles of any given spot, in New-England.

<i>Arietium americanum,</i>	<i>Mitella diphylla,</i>
<i>Adiantum pedatum,</i>	<i>Nelumbium luteum,</i>
<i>Anemone nemorosa.</i>	<i>Oxalis violacea,</i>
<i>Apocynum androsaemifolium,</i>	<i>Panax quinquefolium,</i>
<i>Arctostaphylos bulbosa,</i>	<i>Pegonia opulifolioides,</i>
<i>Asclepias verticillata,</i>	<i>Polygala rubella.</i>
<i>Chimaphila umbellata,</i>	— <i>paucifolia,</i>
<i>Claytonia virginica,</i>	— <i>saxifraga,</i>
<i>Cornus sanguinea,</i>	<i>Rhexia virginica,</i>
<i>Dielytra cucullaria,</i>	<i>Sabbatia chloroides,</i>
— <i>formosa,</i>	<i>Sanguinaria canadensis,</i>
<i>Calopogon pulchellus,</i>	<i>Sisyrinchium aeneum,</i>
<i>Dentaria diphylla,</i>	<i>Solanum dulcamara,</i>
<i>Dracena borealis,</i>	<i>Spiraea tomentosa,</i>
<i>Epigaea repens,</i>	<i>Cornus canadensis,</i>
<i>Erythronium americanum,</i>	<i>Streptopus roseus,</i>
<i>Gentiana crinita,</i>	<i>Tharella cordifolia,</i>
<i>Goodyera pubescens,</i>	<i>Trientalis virginica,</i>
<i>Hepatica triloba,</i>	<i>Trilium erectum,</i>
<i>Hydraphyllum virginicum,</i>	— <i>pictum,</i>
— <i>canadense,</i>	<i>Uvularia perfoliata,</i>
<i>Hypoxis erecta,</i>	— <i>sessilifolia,</i>
<i>Ledum palustre,</i>	<i>Orchis orbiculata,</i>
— <i>latifolium,</i>	<i>Leontice thalicteroides,</i>
<i>Linnaea borealis.</i>	<i>Calypso americana.</i>

Your obedient ser^{vt}, *Chas. G. Greene. Boston, Massachusetts.*

MULCHING WITH TAN.—In the January number of the Horticulturist is a short communication from H. W. S. CLEVELAND, in which, among other matters, he speaks of using tan-bark with success about the roots of an Isabella grapevine. Mr. C. speaks of this as a single experiment, and on that account to be received with some qualification. Some five years ago, I set eight or ten vines (York Claret, Isabella and Catawba,) on the borders of one of my garden walks, with the view of making an arbor. Soon after, I covered the

walk thickly with refuse tan-bark from the tannery, having no reference of course to the vines. The next year I changed my mind in regard to the arbor, and removed the vines to another part of the garden; but in taking them up, was surprised to find that all the vines next to the walk had sent forth vigorous roots into the bark, running from one to three feet. In some instances, the roots had run almost to the surface of the bark; and generally they exhibited the appearances of a net work, from the great multitude of small fibres shooting in every direction, to the ends of which particles of the bark adhered. The vines were remarkably healthy and vigorous; and in transplanting other vines, I have since, when convenient, made liberal use of the bark with apparent success. The matter was new to me, and, at the time, I thought of giving an account of it to some agricultural publication, but concluded that old gardeners would laugh at me, for "carrying coals to New-Castle," and omitted to do so. But since your New-Jersey correspondent thinks it worth communicating, I am encouraged to add my experiment to his; and in legal parlance, it certainly makes out a fair "case in point." Tan-bark is extremely retentive of moisture; and this adds much to its efficiency as a manure. Yours, &c., *Benj. G. Ferris. Ithaca, N. Y., March, 1850.*

STRAWBERRY CULTURE.—*Dear Sir:* I intended last autumn to give you something of my experience in the strawberry culture, but I saw that you had a good number of communications, and therefore deferred my own till a later period, and perhaps too late for the present spring operations.

Several years since, induced by a natural taste for cultivating fruit, and a wish to produce for my own consumption at least, I purchased of *nine* varieties of strawberries—all recommended as very desirable—to the amount of *forty dollars*. According to the almost universal recommendation, I planted in the early autumn. The season proved rather dry, and I paid for preparing the ground and watering the plants twenty dollars more. The next spring, I found that between the dry weather of autumn and the frosts of winter, which had operated severely on the young and feebly-rooted plants, I had few left—scarcely three in the hundred, on an average. I cultivated these during the summer, and contrived to increase their number to a very satisfactory extent; but the amount of fruit was very small, and the quality inferior. In the following spring I removed the whole, gathering the different kinds together, and planting them in beds, each by itself. Instead of giving the extra care and preparation to the ground I had done before, I planted them after a crop of potatoes, and gave no more manure than for an ordinary crop of vegetables. I expected no fruit the first summer, after a spring planting, and the following summer I gathered a crop equal to any I have ever seen or heard of, from several kinds,

while others proved unworthy of cultivation, and were abandoned.

From the nine kinds purchased I selected three, which I continued to cultivate to my perfect satisfaction. In the spring of 1848 I removed young plants from the old beds and placed them on similar soil—which had been three years cultivated in potatoes—ploughing deep and manuring but moderately. Of the six beds, I planted one with Early Scarlet, one with Hudson, three with an oblate scarlet berry—purchased in my first essay, under the erroneous name of Keene Seedling—and one with Boston Pine. The whole extent of these six beds, including trenches, or alleys, was forty-two by sixty feet, less than the twentieth of an acre. The supply of fruit continued very abundant for two weeks, and for another week afforded all that were needed in my family. During this time more than two hundred quarts were gathered from this small piece of ground, produced without extra care or cultivation beyond what would have been given to any common garden crop. I should say, moreover, that three-fourths of this crop was produced upon half the ground from the oblate scarlet berry, while the Boston Pine produced less, and suffered from every gathering of the fruit. My Hudsons yielded less only from growing too luxuriantly, and therefore the crop did not ripen as well. The bed of Early Scarlet was somewhat shaded by an apple tree, and the crop thus diminished.

Such a crop should assuredly be satisfactory to any cultivator; and it was certainly produced with little labor. I am not an advocate for careless cultivation; but in regard to strawberries there are many men, I may say hundreds, who would cultivate this delicious fruit did they know with how little labor it can be produced; while they are deterred by the belief that it costs too much labor and time. I believe two men with myself were occupied scarcely four hours in preparing the ground, after ploughing, and setting the plants. The plants were set at regular intervals of eighteen inches apart, the ground kept clean, and the runners allowed to cover the whole surface the first season; this mode produces the next year, a better crop than I have obtained in any other way. The thick growth of leaves and stems precludes the necessity of laying straw about them, to protect the fruit from the mud or sand; and does it far more cleanly and effectually.

My soil is a loam, above the Albany clay, and retains moisture very abundantly, even during very dry seasons, and on this account seems well adapted to the growth of this fruit. I prefer spring planting for many reasons; first, I am satisfied that by fall planting, no good crop of fruit can be matured the succeeding year, with the soil and climate we have here; therefore nothing is gained by this mode. Secondly; by spring planting, the labor of watering the plants is saved; and this will be required more or less in the autumn planting, unless the season be unusually favorable; and un-

less the plants are well watered they will be likely to be thrown out by the frosts of winter. Perhaps in milder latitudes and a more porous soil, autumn planting may prove satisfactory.

By the practice of allowing the plants to run together, it becomes necessary to thin them in the spring, after the first crop; and by keeping them free from weeds and grass, the second crop will be quite equal to the first one. The third crop from the same beds has proved less abundant; but I have charged this to the growth of grasses among the plants, which it is more difficult to prevent in my soil than to plant a new bed. I am, moreover, of opinion that not more than three good crops can be obtained from the same spot, without breaking up and cultivating in some other way.

If these observations are worth giving to your readers, they can depend upon them as reliable; and whoever has hesitated to cultivate this delicious fruit, let him take courage when he sees it may cost no more than to cultivate an equal extent of radishes or onions. The soil if well ploughed and moderately manured, will be all that is requisite; but he must recollect that freedom from weeds, and moisture in the soil, is very essential if he will produce large and fine fruit.*

I have in progress another experiment with fall and spring planted strawberries, and should the result be of any interest I will give it to you on some future occasion.

In the experience detailed above, I do not pretend to offer an infallible mode, but only to give the result of a simple course, with little labor and expense, which, from an experiment disastrous in its commencement, has resulted so satisfactorily. Yours, *An Albany Subscriber*. March, 1850. (A sensible, practical article. ED.)

HORTICULTURAL CRITICISM CRITICISED.—*Mr. Editor*: It is frequently the fate of those who are actively engaged in the laborious operations of horticulture, to be blamed for failures, without being praised for success; to be censured for casualties which they could neither foresee nor avert, and to have their records of hard-earned experience on questions of practice, on which no law of literature forbids public discussion, contemptuously satirized by men whose pride, humor, interest or inclination may lead into the indiscriminate criticism of subjects beyond their capacity.

When an individual erects a tribunal of censorship, in a country where the science and art of horticulture are yet in their infancy, and almost alienated from each other, he requires to be read with caution and scrutiny, by all who are interested in the subjects of his critique; and it can-

not be regarded as anything short of unwarrantable egotism, for any person—whether he be a practical horticulturist, or a profound experimentalist—to assert this thing to be right, or that thing to be wrong, merely on his own opinion, without advancing one jot or tittle of argument, experiment, or fact, to show whereon he founds his assertion; for it is well known, that an ignorant critic may often espy a blemish, when his own mind is not sufficiently enlightened to discover a beauty. But such critics can neither diminish the stability of a principle by their censure, nor increase it by their praise.

In these days of free inquiry, the mere opinion of any man, is taken for just what it is worth, and its worth is generally estimated in proportion to the strength and clearness of the facts upon which it is founded; hence, an opinion, unsupported by facts, is justly regarded as worth nothing at all. The science of horticulture is just beginning to emerge from shadowy vagueness; and at this time, we are in particular danger of being led astray by opinions and whimsicalities—of following absurd practices, and copying bad models; and if censorship is to be assumed by any one, let it be impartially applied. The condemnation which is clearly required, ought not to be withheld for any contingent advantages, much less from pure regards of personal favor. Any person who brings forward his experience, for the benefit of his brethren, does so at the hazard of condemnation or approval. He necessarily places himself before the tribunal of criticism. But whoever criticises him, should do so by deductions, analogy, or facts; and not by vague, bombastic and empty assertions.

I think it will be admitted, by all who are acquainted with the practical operations of horticulture, that the only satisfactory way of proving the value of any system, or course of practice, is by a series of experiments and counter-experiments. We may sometimes be induced, on first observations, to reason ourselves into conclusions that are clearly absurd; and if such conclusions be given to the world, and passed without reprehension, or perhaps indiscriminately praised with others, which it may please the caprice or fancy of the critic to extol, then the literature of horticulture becomes the bane of its practical progress; and on such literature, criticism falls without effect. Nothing can be more desirable in our horticultural literature, at present, than well directed criticism, applied impartially and unsparingly, both to theoretical and practical writings; not only for the purpose of exposing and rectifying errors, but also for improving our practice, and consolidating our systems.

Few reflecting minds can fail to perceive that our horticultural literature is at present under the Rhadamanthean control of despotic opinionism. Like the "Scotch Reviewers," a self-opinionated tribunal of censorship, vainly attempts to stifle incipient principles and practices in the bud, except,

* A gentleman who is a good fruit-grower, informed the writer that the largest and finest strawberries he had ever seen were grown upon a terrace, from the slope above which issued a small spring, the water finding its way over the surface where the plants grew, and keeping it constantly wet.

perhaps, they emanate from some *illustrious* amateur, who can make an ostentatious boast of being the possessor of "fine oaks, broad fields, and brood mares." But it is very doubtful whether any animadversion, however satirical or severe, will be effectual in preventing the development of a more scientific system of horticulture, whether the principles upon which it is founded emanate from the chemist in his laboratory, or the more humble tiller of the soil. The days are now gone by, when learning is confined to the cloister, and science within the precincts of the college. There is a species of knowledge which, like the instinct of animals, may act within a limited sphere with apparent uniformity; but which, however, is more amusing than useful, and may often induce us to admire what we cannot approve. But learning and skill form a happy combination, and seldom fail in securing the support of those who can appreciate their value—a support sufficiently powerful to set at defiance both scorn and scrutiny. Whatever some of our would-be horticultural critics may think, it is nevertheless true, that the mind is more enlightened on any art by practice, than by mere study; and its advancement is always hindered by an unquestioned submission to dictatorial decisions.

On horticultural matters, almost every person has, or pretends to have, a smattering of knowledge; and it is generally those who have least, that are most ambitious to exhibit the little they possess; and they are also most reluctant in their concessions to those who have more. When we reflect how comparatively little the most enlightened can boast of, and how much must necessarily elude the diligence of the most vigilant observer, what can we think of the judgment of a critic who sets up his opinion against ninety-nine hundredths of the practical, and the undivided testimony of the scientific men at the present day, merely because he had found the roots of a willow tree in a wall, twenty feet from its stem,—having penetrated through stiff clay,—when the slightest consideration would show him, that this fact proved the position which he has questioned? In the December No., p. 272, we have an article on grapevine borders. In a subsequent number, this article is encomiastically extolled as the production of learning and experience by your criticising correspondent. He says it is something new, and thanks the writer for broaching a new subject—a subject which has been broached by every theoretical and practical scribbler, weekly and monthly, from the days of *SPEECHLY* down to the present.

In the article referred to, "*Hoar's Treatise on the Vine*," is quoted, as a standard work in England on that subject. This is one of numerous instances within my knowledge, of people in this country being led astray by English works. The treatise in question is scarcely known, or the system practiced by half a dozen cultivators in the kingdom; and were any one to travel from Corn-

wall to Caithness, on a mission of inquiry, he would not find the number of cultivators I have stated who know anything of the system; and none at all who practice it. If, however, by any one, it is only as the absurd whimsy of a man who knew nothing of vine culture, and who fancied other people knew less than himself. If impracticable in England, it would be doubly so here. The remarks of your correspondent upon this system, show plainly that he is not a man of practice; and his irrelevant analogy between the roots of plants and the stomachs of animals, would also induce us to believe he was not a man of science. With regard to the critique upon the same article, in a subsequent number, it savors too much of twaddle to be worthy of comment.

In horticultural matters, every man ought to purpose to himself the highest degree of excellence, which circumstances may render it possible for him to attain; and in his pursuit of excellence, he will frequently be urged to adopt expedients which more extended experience and inquiry will prove to be absurd. It frequently happens that mere make-shifts and expedients are magnified into inventions, and are published and applauded to the world, before they are ascertained to be improvements. The purely practical man is very often bewildered in the mazes of conflicting opinions, which might be clearly illustrated by a simple fact, providing the fact and the illustration together, are not both obscured by a maze of metaphysical sophistry. He is no less *non-plussed*, however, when insignificant facts are subtilized beyond exactness, and trifling evidence dilated beyond practical perspicuity. Our horticultural literature is justly blamed for these errors, and the art suffers from their effects. In the present transitory and undefined state of our horticultural knowledge,—knowing the uncertainty of conjecture, and the scantiness of substantial evidence, on any point of practice, arising from the effects of locality and climate, or from deficiency of skill,—knowing, also, the difficulty of discovering at all times the causes of failure, and the certain means of avoiding it, and the liability of the most proficient to fall into errors,—it is, I think, no disgrace to a critic, whatever his pretensions, to leave obscurities, which he does not understand, to happier industry and more diligent inquirers.

In recording our experience for the benefit of others, the *multiplicity* is less to be relied on or considered, than the *power* of the facts that are adduced. When trifling facts are accumulated, without necessity, they weaken the force, instead of strengthening a general principle. How often are facts laid before us, founded on conjecture, and drawn from infinitesimal deductions, which nature herself will hardly recognize; and how often are eloquent arguments used to support facts which practical investigation sinks into nothingness. Many people who amuse themselves with horticultural matters, though zealous enough, are nevertheless incautious and unskilful in their

operations, their observations and conclusions. They fancy a consequence which they ardently wish, and proclaim it to the world as a new discovery, while more extended observation and experience would have convinced them of its want of reality, and perhaps given them reasons to doubt the accuracy of their first conclusion. Endeavors to discover useful facts are always laudable, even when the discoveries are beyond the capacity that undertakes them; but we ought to be silent in regard to dubious results, rather than to publish and applaud them at the hazard of misguiding others. A man ought to deliberate when he is doubtful, and inquire when he is ignorant; nor ought he to proclaim a principle upon hasty experiments. A man intent upon inquiry, will find in the course of his investigations, that though one result generally gives rise to another, it is often difficult to discover the real cause that produced them. To search, is not always to find; and to find, is not always to be informed. We may pursue objects in horticulture, as the first inhabitants of Arcadia chased the sun, which, when they had reached the hill on which he seemed to rest, was still beheld at the same distance from them.

It is an acknowledged truth, that although a great deal has resulted from application and industry, discoveries in our horticultural practice are not always awarded to those who are solely, and it may be incessantly, searching for them. Some of the most valuable have resulted from necessity or chance. Care will sometimes betray the appearance of negligence, and he, who, in searching for some important fact, will neglect others equally important, that are obvious and familiar, must fail in elucidating truth to prove his own investigations, and is consequently incapable of criticising others. In things that are easily performed, there is always danger from confidence, and in things difficult, there is as much danger from ignorance. The mind, afraid of grasping with profound truths, is disdainful of simple ones, and hastily withdraws itself from deep researches, while it passes, with scornful rapidity, over tasks to which its powers are inadequate, and attempts to captivate its readers with florid language, in order to hide the sterility of its ideas. Capricious in its censure, expressing opinions with colloquial waggishness, confounding errors with improprieties, and fallacies with truths; sometimes too gross and vulgar for common courtesy, at others too absurd and bombastic for common sense; sometimes treating twaddle and nonsense with encomiastic seriousness, and at others treating profound scientific deductions with levity and burlesque, and throughout evidently actuated by prejudices that are only equalled by the impotency of the production, the criticism dwindles down to the despicable standard of meanness and malignity.

And such is the tenor of some of our horticultural criticisms at the present day. No subject is minutely or particularly examined, (though judg-

ment is passed upon all,) except under dissyllabic ejaculations, such as—"Quite right," "that's good," "I hate this, and like the other thing."—disdaining the labor of investigation, yet claiming all the dignity of learned criticism. Let any one glance, if they have patience enough, at the critique in the February number of the *Horticulturist*, and observe the ridiculous obliquity of the critic's vision,—how wit is struggling with ignorance, and sophistry with conceit. Again, in the subsequent number, we observe metaphor degenerating into vulgar cant, and analogy stretched out into hyperbolic exaggeration; enfeebled by the want of force, and clouded by the want of perspicuity. Such criticism admits neither of apology nor extenuation. It wants the candour of honesty to deserve the one, and the humility of ignorance to merit the other. This critic's budget is like a jack-of-all-trades' shop—an *omnium gatherum* of littleness, containing a variety of trifles, but nothing of value. It may pass well enough when the frivolous imagination only wishes for amusement, but will be passed over with contempt by the inquiring mind that seeks for instruction.

Such, I have said, is our horticultural criticism. But who will dare to criticise the critics? Certainly not the mere mechanical clod-hoppers of the soil. Such involuntary excursions of thought are too ethereal for their labor-loaded imaginations, and too presumptuous in their character to escape the denunciations which have been already feebly inflicted. Our amateur friends, however, ought to consider, in their critical lucubrations, that the hard-working mechanic, and laborious tiller of the soil, can handle the pen as well as the spade, and can criticise as well as those who spend their lives in studious idleness, and much more to the point; at least we are induced to draw this inference if we are justified in judging from the specimens already produced.

No person who is thoroughly conversant with the present ambiguous and undefined state of horticultural knowledge will deny that criticism is above all things needful, both for the rectification of errors, and consolidating our principles. But let us have critics who are equal to the task. No editor of a horticultural journal will minutely criticise and comment upon every production that may be sent to his pages; nor is it necessary, when his readers belong to that fortunate class who are capable of judging for themselves. Moreover, as a caterer of knowledge, he is necessitated to record the experience and opinions of others, leaving his readers to draw their own conclusions. A critic, however, is in a very different position; he constitutes himself a tribunal for the judgment of public productions, and consequently renders himself amenable to the public for the judgment which he gives. A critic is not less debased in prostituting his judgment by exaggerated censure, than he is by attempting to shrink from the odium he incurs by exaggerated praise, nor can his incapacity be more clearly illustrated, than when he at-

tempts to ridicule the serious reflections of other men's minds by the sportive sallies of his own.

In conclusion, I cannot help expressing my regret to perceive a want of amicable feeling between two classes of individuals whose reciprocal interests should reconcile them to unity of purpose. When a critic sneers at practical writers, simply because they are so, he not only shows the meanness of his motives, but the shallowness of his mind. Let him rest assured, however, that practical men at the present day, are neither so timorous as to be terrified by censure, nor so abject as to be silenced by abuse. *R. B. L. Baltimore.*

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PROTECTING TREES AGAINST MICE.—*Dear Sir:* A Philadelphia correspondent gives us a method of protecting trees against mice, by means of tin wound around them. I think the plan a very good one, but rather expensive.

The following I have found an effectual and much cheaper manner. I prepared a quantity of blocks, two to three inches square by six inches in length, obtained from refuse plank or scantling. In these I bored holes with an inch-and-a-half augur, lengthwise, and nearly through them. I then put a quantity of cornmeal and arsenic in the bottom of each, pressing it down firmly with a stick. We then distribute them about the nursery in situations where the trees seemed most exposed to the depredators, and where they suffered severely the previous season. The blocks should be placed with the mouth inclining slightly downwards, to keep the powder dry.

Upon examination a few days since, I found that many of them had been *visited*, but not a tree had been touched in the line of *fortification*.

The expense of these *guns*, (which are "great guns" in a small way,) is but trifling, and they will last for years. They will need *loading* annually in the fall, for a winter campaign. Yours, respectfully. *Jas. W. Hooker. Rochester, March 7, 1850.*

P. S. A neighbor having some very troublesome little pigs, soon found nails enough to mend his pen when informed of my preparations for self-defence.

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CLIMATE AND POLARITY.—*Dear Sir:* I am much pleased with the communication of Professor TURNER (Sept., 1848), as it agrees with my own opinion, which I formed immediately after I arrived in this country, namely, that the summer heat of this climate is too intense for many European plants; for which reason I have always tried to protect my plants from the effect of the summer sun. Fruit trees, by whitewashing their trunks, and by shading my grapevines and other small plants, I found that they became more healthy and vigorous in consequence.

By this opportunity, I wish to draw your attention to "*the laws of polarity*," as they effect vegetable productions, especially in regard to early or late fruits.

To obtain *early* fruit, graft the scion of that quality on a stock of a *late* kind, or a *late* variety on an *early* stock, to ripen the fruit *much later* than that from which the *late* scion was taken. [Does our correspondent mean to assert this as theory or fact? *Ed.*]

Please pardon my poor English,—this not being my native tongue. Yours very respectfully, *G. H. B. Nazareth, Pa., February 14, 1850.*

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GUTTA PERCHA AS A NON-CONDUCTOR.—As the security of dwellings and other buildings against lightning is a matter of great importance and general interest, I would remark that at a lecture recently delivered by Mr. FIELD of Williamsburgh, on electricity, he said that lightning rods frequently get rusty, and cut through at the surface of the ground; and where that occurs, that the iron staple, connecting the rods with the buildings, conducts the lightning into the houses. If the staples, said Mr. FIELD, were incased with gutta percha, it would insure perfect security to the buildings. *M. C.*

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COLUMBUS (O.) HORTICULTURAL SOCIETY.—At the annual meeting of the Society, held on Saturday evening March 2, the following gentlemen were elected officers for the ensuing year:

President—Dr. J. G. JONES.

1st Vice President—LEWIS HEYL.

2d Vice President—LUCIAN BUTTLES.

Treasurer—ADAM SITES.

Cor. and Rec. Sec'y—ALEX. E. GLENN.

Managers—Francis Stewart, M. B. Bateham, John Miller, Geo. G. Comstock, A. B. Buttles.

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NEW BEDFORD HORTICULTURAL SOCIETY.—At the annual meeting of the New Bedford Horticultural Society, held 2mo. 7th, 1850, the following officers were unanimously chosen for the year ensuing, viz:

President—JAMES ARNOLD.

Vice Presidents—HENRY H. CRAPO, JOHN HOWLAND, SAM'L. W. RODMAN, WM. P. JENNEY.

Treasurer—WM. C. COFFIN.

Cor. Sec'y—J. H. W. PAGE.

Rec. Sec'y—MATTHEW HOWLAND.

Executive and Finance Committee—Lucian B. Keith, Joseph Clark, James H. Collins, John Wood.

On Premiums—Willard Nye, Geo. Tappan.

On Library—Joseph C. Delano, Geo. Howland, jr., Samuel R. Brown.

Fruits and Synonyms—Henry H. Crapo, Wm. Swift, Wm. T. Cook, John Gibson, R. N. Swift.

Plants and Flowers—Thos. A. Greene, Wm. C. Coffin, Wellwood Young, F. P. Chase, I. D. Hall.

On Shrubs—Augustus Taber, Obed Nye, Hat-til Kelley, Wellwood Young, John B. Burgess.

On Publications—James B. Congdon.

On Vegetables—Edmund Gardner, John B.

Burgess, John M. Howland, Henry S. Packard, Philip Anthony.

On Exchange of Fruits and Flowers.—Albert D. Hatch.

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ANSWERS TO CORRESPONDENTS.

PAINT AND SAND.—*E.*, (Balfray, N. C.) Mr. WHEELER's durable paint for outside work, referred to in the August number Horticulturist, is as follows: "take 50 lbs. best white lead; ten quarts linseed oil; $\frac{1}{2}$ lb. dryers; 50 lbs. finely sifted clean white sand; 2 lbs. raw umber. Thoroughly mix, and dilute the whole with the oil, adding a very little (say half a pint) of turpentine. Lay it on with a large brush. I use a wire brush, which does not cut through with the sand."

POMOLOGICAL.—*T. Boardman*, (Trumansburgh.) The Pomological Congress Report will, we understand, be ready about the 1st of May. Copies may be had at the publication office of the Horticulturist, (407 Broadway, Albany,) or at Mr. Breck's Agricultural Warehouse, North Market street, Boston. The report will be sent by mail to all persons who attended the Congress at Castle Garden, and entered their names. You will find Bullock's pippin described at page 131 of our Fruit Trees. The Diana grape cannot be procured at any price now—but several nurserymen are propagating, and will, we presume, have it for sale in the autumn.

MANURES.—*A Long Island Subscriber*. Try the *Poudrette* of the Lodi Company, New-York. We can recommend it, from experience, as the safest, cheapest and most easily used of all manures for the *nicer* gardening purposes. It will not burn up your plants or seed, (as guano will in the hands of novices,) and is at the same time a most active and vigorous stimulant.

IMPORTED TREES.—*J. Jackson*, (Boston.) Imported fruit trees are not, in our estimation, quite equal to those grown here, but nevertheless they succeed well, and make sound and healthy trees. We have not found them more tender than the same sorts grafted in this country. It is only by raising trees from *seed* grown here that they become hardier.

VERBENAS.—*Viola*, (Holyoke, Mass.) Nothing is easier than to cultivate verbenas. They will generally grow well in any rich, deep garden soil, but if you find any difficulty with your soil, procure a couple of wheelbarrow loads of good sods, char or burn them by mixing them with refuse brush or combustible garden rubbish, and setting the heap on fire. Take these charred sods, chop them up finely, make a bed of one-third of them, one-third garden soil, one-third with rotted manure. If the soil is heavy, add some sand. In this, plant your verbenas, any time during the month of May. They always look best in a bed or mass, and half a dozen plants will creep over and cover a bed three or four feet in diameter. The spot for the bed should be in the open sunshine, and away from

the shade of trees. To propagate the verbenas is the easiest possible thing of the kind. You have only to plant cuttings in a pot with a little sandy soil, and turn a large bell glass—or tumbler if you have nothing better—over them. Water the pot of cuttings every evening, and remove the tumbler for a few hours—taking care to replace it before the sun shines. In ten days or a fortnight they will be rooted, and may be turned out of the pot and set out in a bed, watered and shaded for three or four days, when they will be established. You may propagate them in this way at any time—but cuttings are usually made for next year's stock in the month of August. The pot can be stuck full, and may remain so till early in the spring, when they should be separated and put into separate pots to get established before it is time to turn them into the open border. They must be kept in a green-house or room where there is no frost through the winter, and watered rather sparingly till spring opens. Among the best sorts are the following: *Beauté Supreme*, *pearl blossom*; *Robinson's Defiance*, *scarlet*; *Rosy Morn*, *light rosy crimson*; *Satellite*, *orange scarlet*; *Queen*, *white*.

MISCELLANEOUS.—*E Wilcox*, (New-York.) Spent tan-bark will do very well for mulching all but very delicate trees or shrubs. The Bartlett would be a far more profitable pear than the White Doyenne, in your New Jersey soil. We art doubtful of success in grafting the beach plum trees you speak of, but it is worth a trial. (Your letter mis-carried.)

GUANO.—*W. P. A.*, (Detroit.) This is a most valuable manure if used judiciously. To dig it in around the roots of tender plants, or mix it with soil in which seeds are to be grown, amounts, generally, to burning up these plants or seeds. We prefer, therefore, to apply it in the fall, ploughing or digging it in when the roots are dormant, so that it becomes incorporated with the soil before the plants are affected by it. The true way to use guano, at this season, is to compost it with charcoal, peat, or swamp muck, mixing about one hundred pounds of guano with a cart load of charcoal dust or a waggon load of decomposed peat, and letting it be a fortnight before using it—turning it over once or twice in the interval. This economises the value of the guano, and the carbon, taking up the more active elements of the guano, and giving them out slowly, prevents the injurious action which they often have on tender plants.

TOBACCO-WATER.—*A Beginner*, (Natchez.) To destroy the aphid or green insect that infests young rose shoots, the following recipe, if followed, will prove most effectual: "Pour one quart of boiling water upon one ounce of shag tobacco; let it stand until cold, and then strain and bottle it for use; it will keep good for a year if not wanted. One sprinkling of this will destroy the green fly upon any plant, without the least injury to the plant itself. The best method of applying it, is to take the plant in one hand, and holding it with its

head downwards, with a feather or brush, sprinkle the tobacco-water upon the under parts of the leaves, or, if the plants are not in flower, all over them. This, if the tobacco-water is perfectly clean, will not need washing off again."

DAHLIAS.—*A. R.* (Syracuse, N. Y.) You did not succeed, because your soil is too thin and dry. Choose a part of your garden actually damp or moist, trench it two feet deep, manure it highly, and then plant your dahlias, and you will, with an ordinary season, have an abundant bloom. See Thorburn's advertisement for the finest new sorts. *Moss Roses* require a good deal of manure, and a rather cool situation—as they suffer from the sun in a hot situation. They are greatly helped in a hot soil by mulching or covering the ground with straw or hay.

ROSES.—*A Lady of Berkshire.* If you wish an abundant bloom of perpetual roses in summer and autumn, cut off all the buds that appear in June, before they are half grown.

THE BORER.—*A. W.*, (Worcester, Mass.) It is not enough to take the borer out of the tree. You must prevent their laying more eggs in it again. This may be done by painting over the the principal body and limbs—especially at the surface of the ground and the fork of the branches—with a wash offensive to the insects when in a winged state, about the last of this month—May; they come out, fly about and deposit their eggs. Such a wash is made by taking soft-soap and thinning it with tobacco-water till it is like thick cream. Put it on with a brush, rubbing it in the crevices of the bark.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society was held, as usual, on Tuesday evening, April 16, 1850. The president in the chair.

The exhibition surpassed former occasions in attraction, and was enjoyed by a crowd of visitors, who appeared highly delighted with the beauty of the display. The object to which all were attracted, was a large table in the centre of the saloon, on which were arranged the richest collection of grapes, on vines growing in pots, that have ever been shown at this season of the year, consisting of Black Hamburg, White Tokay, Reine de Nice, Victoria, Rose Chasselas, Early White Muscat, Red Frontignan, White Frontignan, Muscat blanc hative, Black Frontignan, Golden Chasselas, and White Sweet Water. The society is again indebted, for this instance, to the liberality of its president, Caleb Cope, who takes so much pleasure to gratify the members. Apart from the great credit of producing such fine specimens of fruit, an additional merit is due to the gardener for having grown them on plants only one year from the insertion of the bud, which was the fact with all, except the last three named varieties.

The many collections of choice flowering plants, were unusually fine. Some specimens were remarkable for beauty; especially so was a *Rhododendron ponticum*, a fair tree in proportions,—being some ten feet in height, covered with numerous trusses of gorgeous flowers,—an object in itself of much admiration; this plant was from the green-house of James Dundas. From the same source, among a variety of other plants, were specimens of *Azalea variegata*, *Campanula nobilis*, *Rhododendron Catawbiense*, *Deutzia scabra*, and *Justicia carnea*, of great beauty. From Robert Buist's houses, there were, besides a large collection of standard plants, a number of entirely new, and shown for the first time, of which were the *Gardenia Stanleyana*, a plant twelve inches in height, bearing a sombre flower ten inches in length; *Polygala Dalmaisiana*, *Tropaeolum Lobbianum*, *Aquilegia Skinnerii*, and *Pelargonium*, varieties *Talesmana*, *Zarefa*, *Ytolmskii*, and *Arabian*. From Miss Gratz' collection, were choice *Pelargonium*, *Cinerarias*, *Cacti*, *Viola*, etc. By John Lambert's gardener, *Roses*, double stocks, *Schizanthi*, *Cinerarias*, *Tulips*, with many others. From John Sherwood, *Campanula nobilis*, *Justicia carnea*, and *Roses*. By Ben Daniels, gardener to Caleb Cope, *Azalea*, *Cineraria*, and *Hyacinths*. By William Hall, choice *Roses*. By James Powell, beautiful *Cinerarias*. By Andrew Dryburgh, handsome *Pansies*. The designs, baskets of cut flowers, and bouquets, were very neat and fragrant. Of vegetables, there was the usual extensive display.

The following premiums were awarded on the occasion:— By the committee on plants and flowers. *Pelargonium*—for the best six named varieties in pots, to Robert Scott, foreman to Robert Buist; for the second best do., to Patrick Gallagher, gardener to Miss Gratz. *Roses*—for the best six named varie-

ties in pots, to Maurice Finn, gardener to John Lambert; for the second best ditto, to Wm. Burnley, foreman to John Sherwood. *Hyacinths*—for the best six varieties in pots, to Ben Daniels, gardener to Caleb Cope. *Pansies*—for the best six varieties in pots, to Andrew Dryburgh; for the second best ditto, to Maurice Finn. *Green-house plants*—for the best three varieties, and for the second best three, to James Bisset, gardener to James Dundas. *Plants in pots*—for the most interesting collection, to Maurice Finn; for the second best ditto, to James Bisset; for the third ditto, to Patrick Gallagher. For the best design of cut flowers, to Ben Daniels. For the best hand bouquet, to Robert Kilvington. For the best bouquet, formed of indigenous flowers, to Robert Kilvington. Basket of cut flowers—for the best, to Maurice Finn; for the second best ditto, to Ben Daniels. The committee awarded with pleasure a special premium of five dollars, for a splendid specimen of *Rhododendron ponticum*, in fine bloom, to James Bisset.

By the committee on fruits. *Apples*—for the best display, of three specimens of five varieties, to John Perkins, Moorestown, N. J. The committee also award a special premium of ten dollars to Ben Daniels, for a most interesting display of twelve varieties of grapevines, filled with perfect fruit, which were all fruited in one year from the bud.

By the committee on vegetables. *Sea-kale*—for the best twelve plants, to Patrick Gallagher, gardener to Miss Gratz. *Rhubarb*—for the best twelve stalks, to Anthony Felten; for the second best ditto, to Patrick Gallagher. *Asparagus*—for the best twelve stalks, to Isaac B. Baxter. *Vegetables*—for the most interesting display, by a commercial gardener, to Anthony Felten; for the most interesting display by an amateur gardener, to Patrick Gallagher; for the second best ditto, to Wm. Johns.

The society was the recipient of a valuable donation from Captain William McMichael, of the ship *Montauk*, consisting of seeds from New South Wales, and wine made from native grapes of Australasia, of fine hock flavor, for which a vote of thanks was ordered to the donor for gifts so acceptable. A communication from the secretary of the Royal Society of Van Dieman's Land was read, desiring an interchange of products, books, etc., accompanying which were copies of the Transactions and Rules of the Society, when, on motion,

Resolved, That a copy of the publications of our society be sent, and an interchange be kept up for the future with the Royal Society of Van Dieman's Land.

Dr. Hare introduced the subject of the supposed ill effects resulting from the attacks of the larva of the seventeen year locusts upon the roots of various trees, explaining fully his views, when, on motion, a committee was appointed to investigate the subject.

T. P. JAMES, Rec. Secretary.



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WITHOUT any boasting, it may safely be said, that the natural features of our common country (as the speakers in Congress call her,) are as agreeable and prepossessing as those of any other land—whether merry England, *la belle France*, or the German fatherland. We have greater lakes, larger rivers, broader and more fertile prairies than the old world can show; and if the Alleghanies are rather dwarfish when compared to the Alps, there are peaks and summits, “castle hills” and volcanoes, in our great back-bone range of the Pacific—the Rocky Mountains—which may safely hold up their heads along with Mont Blanc and the Jungfrau.

Providence, then, has blessed the country—our country—with “natural born” features, which we may look upon and be glad. But how have we sought to deform the fair landscape here and there by little, miserable, shabby-looking towns and villages; not miserable and shabby-looking from the poverty and wretchedness of the inhabitants—for in no land is there more peace and plenty—but miserable and shabby-looking from the absence of taste, symmetry, order, space, proportion,—all that constitutes beauty. Ah, well and truly did POPE say,

“God made the country, but *man* made the town.”

For in the one, we everywhere see utility and beauty harmoniously combined, while the other presents us but too often the reverse; that is to say, the marriage of utility and deformity.

Some of our readers may remind us that we have already preached a sermon from this text. No matter; we should be glad to preach fifty; yes, or even establish a sect,—as that seems the only way of making proselytes now,—whose duty it should be to convert people living in the country towns to the true faith; we mean the true rural faith, viz., that it is immoral and uncivilized to live in mean and uncouth villages, where there is no poverty, or want of intelligence in the inhabitants; that there is nothing laudable in having a piano-forte and mahogany chairs in the parlor, where the streets outside are barren of shade trees, destitute of side-walks, and populous with pigs and geese.

We are bound to admit (with a little shame and humiliation,—being a native of New-York, the “empire state,”)—that there is one part of the Union where the millenium of country towns, and good government, and rural taste has not only commenced, but is in full domination. We mean, of course, MASSACHUSETTS. The traveller may go from one

end of that state to the other, and find flourishing villages, with broad streets lined with maples and elms, behind which are goodly rows of neat and substantial dwellings, full of evidences of order, comfort, and taste. Throughout the whole state, no animals are allowed to run at large in the streets of towns and villages. Hence, so much more cleanliness than elsewhere; so much more order and neatness; so many more pretty rural lanes; so many inviting flower gardens and orchards—only separated from the passer-by by a low railing or hedge, instead of a formidable board fence. Now, if you cross the state line into New-York—a state of far greater wealth than Massachusetts, as long settled and nearly as populous—you feel directly that you are in the land of “pigs and poultry,” in the least agreeable sense of the word. In passing through villages and towns, the truth is still more striking, as you go to the south and west; and you feel little or nothing of that sense, of “how pleasant it must be to live here,” which the traveller through Berkshire or the Connecticut valley or the pretty villages about Boston, feels, moving his heart within him. You are rather inclined to wish there were two new commandments, viz: thou shalt plant trees, to hide the nakedness of the streets; and thou shalt not keep pigs—except in the back yard!*

Our more reflective and inquiring readers will naturally ask, why is this better condition of things—a condition that denotes better citizens, better laws, and higher civilization—confined almost wholly to Massachusetts? To save them an infinite deal of pains-taking, research and investi-

gation, we will tell them in a few words. *That state is better educated than the rest.* She sees the advantage, morally and socially, of orderly, neat, tasteful villages; in producing better citizens, in causing the laws to be respected, in making homes dearer and more sacred, in making domestic life and the enjoyment of property to be more truly and rightly estimated.

And these are the legitimate and natural results of this kind of improvement we so ardently desire in the outward life and appearance of rural towns. If our readers suppose us anxious for the building of good houses, and the planting of street avenues, solely that the country may look more beautiful to the eye, and that the taste shall be gratified, they do us an injustice. This is only the external sign by which we would have the country's health and beauty known, as we look for the health and beauty of its fair daughters in the presence of the rose on their cheeks. But as the latter only blooms lastingly there, when a good constitution is joined with healthful habits of mind and body, so the tasteful appearance which we long for in our country towns, we seek as the outward mark of education, moral sentiment, love of home, and refined cultivation, which makes the main difference between Massachusetts and Madagascar.

We have, in a former number, said something as to the practical manner in which “graceless villages” may be improved. We have urged the force of example in those who set about improving their own property, and shown the influence of even two or three persons in giving an air of civilization and refinement to the streets and suburbs of country towns. There is not a village in America, however badly-planned at first, or ill-built afterwards, that may not be redeemed, in a great measure, by the aid of shade trees in the streets, and

* We believe we must lay this latter sin at the doors of our hard-working emigrants from the Emerald Isle. Wherever they settle, they cling to their ancient fraternity of porkers; and think it “no free country where pigs can't have their liberty.” Newburgh is by no means a well-planned village, though scarcely surpassed for scenery; but we believe it may claim the credit of being the only one among all the towns, cities and villages of New-York, where pigs and geese have not the freedom of the streets.

a little shrubbery in the front yards, and it is never too late or too early to project improvements of this kind. Every spring and every autumn should witness a revival of associated efforts on the part of select-men, trustees of corporations, and persons of means and influence, to adorn and embellish the external condition of their towns. Those least alive to the result as regards beauty, may be roused as to the effects of increased value given to property thus improved, and villages thus rendered attractive and desirable as places of residence.

But let us now go a step further than this. In no country, perhaps, are there so many *new* villages and towns laid out every year as in the United States. Indeed, so large is the number, that the builders and projectors are fairly at a loss for names,—ancient and modern history having been literally worn threadbare by the god-fathers, until all association with great heroes and mighty deeds is fairly beggared by this rechristening going on in our new settlements and future towns, as yet only populous to the extent of six houses. And notwithstanding the apparent vastness of our territory, the growth of new towns and new states is so wonderful—fifteen or twenty years giving a population of hundreds of thousands, where all was wilderness before—that the plan and arrangement of new towns ought to be a matter of national importance. And yet, to judge by the manner in which we see the thing done, there has not, in the whole duration of the republic, been a single word said, or a single plan formed, calculated to embody past experience or to assist in any way, the laying out of a village or town.

We have been the more struck by this fact in observing the efforts of some companies who have lately, upon the Hudson, within some twenty or more miles of New-York, undertaken to lay out rural villages,

with some pretension to taste and comfort; and aim, at least, at combining the advantages of the country with easy railroad access to them.

Our readers most interested in such matters as this, (and, taking our principal cities together, it is a pretty large class,) will be interested to know what is the beau-ideal of these companies, who undertake to buy tracts of land, lay them out in the best manner, and form the most complete and attractive rural villages, in order to tempt those tired of the way-worn life of side-walks, into a neighborhood where, without losing society, they can see the horizon, breathe the fresh air, and walk upon elastic green-sward.

Well, the beau-ideal of these newly planned villages is not down to the zero of dirty lanes and shadeless roadsides; but it rises, we are sorry to say, no higher than streets, lined on each side with shade trees, and bordered with rows of houses. For the most part, those houses—cottages, we presume—are to be built on 50 feet lots; or if any buyer is not satisfied with that amount of elbow room, he may buy two lots, though certain that his neighbor will still be within 20 feet of his fence. And this is the sum total of the rural beauty, convenience and comfort of the latest plan for a rural village in the Union.* The buyer gets nothing more than he has in town, save his little patch of back and front yard, a little peep down the street, looking one way at the river, and the other way at the sky. So far from gaining anything which all inhabitants of a village should gain by the combination, one of these new villagers actually loses; for if he were to go by himself he would buy land cheaper, and have a fresh landscape of fields and hills around

* We say *plan*; but we do not mean to include in this *such* villages as Northampton, Brookline, etc., beautiful and tasteful as they are. But they are in Massachusetts!

him, instead of houses on all sides, almost as closely placed as in the city, which he has endeavored to fly from.

Now a rural village—newly planned in the suburbs of a great city, and planned, too, specially for those whose circumstances will allow them to own a tasteful cottage in such a village—should present attractions much higher than this. It should aim at something higher than mere rows of houses upon streets crossing each other at right angles, and bordered with shade trees. Any one may find as good shade trees, and much better houses, in certain streets of the city which he leaves behind him; and if he is to give up fifty conveniences and comforts, long enjoyed in town, for the mere fact of fresh air, he had better take board during the summer months in some snug farm-house as before.

The indispensable desiderata in rural villages of this kind, are the following: 1st, a large open space, common, or park, situated in the middle of the village—not less than 20 acres; and better, if 50 or more in extent. This should be well planted with groups of trees, and kept as a lawn. The expense of mowing it would be paid by the grass in some cases; and in others a considerable part of the space might be enclosed with a wire fence, and fed by sheep or cows, like many of the public parks in England.

This park would be the nucleus or *heart of the village*, and would give it an essentially rural character. Around it should be grouped all the best cottages and residences of the place; and this would be secured by selling no lots fronting upon it of less than one-fourth of an acre in extent. Wide streets, with rows of elms or maples should diverge from the park on each side, and upon these streets smaller lots, but not smaller than 100 feet front, should be sold for smaller cottages.

In this way, we would secure to our village a permanent rural character; first, by the possession of a large central space, always devoted to park or pleasure ground, and always held as joint property, and for the common use of the whole village; second, by the imperative arrangement of cottages or dwellings around it, in such a way as to secure in all parts of the village sufficient space, view, circulation of air, and broad, well-planted avenues of shade trees.

After such a village was built, and the central park planted a few years, the inhabitants would not be contented with the mere meadow and trees, usually called a park in this country. By submitting to a small annual tax per family, they could turn the whole park, if small, or considerable portions, here and there, if large, into pleasure-grounds. In the latter, there would be collected, by the combined means of the village, all the rare, hardy shrubs, trees and plants usually found in the private grounds of any amateur in America. Beds and masses of everblooming roses, sweet-scented climbers and the richest shrubs would thus be open to the enjoyment of all during the whole growing season. Those who had neither the means, time, nor inclination to devote to the culture of private pleasure-grounds, could thus enjoy those which belonged to all. Others might prefer to devote their own garden to fruits and vegetables, since the pleasure-grounds, which belonged to all, and which all would enjoy, would, by their greater breadth and magnitude, offer beauties and enjoyments which few private gardens can give.

The next step, after the possession of such public pleasure-grounds, would be the social and common enjoyment of them. Upon the well-mown glades of lawn, and beneath the shade of the forest trees, would be

formed rustic seats. Little arbors would be placed near, where in mid-summer evenings ices would be served to all who wished them. And, little by little, the musical taste of the village (with the help of those good musical folks—the German emigrants,) would organize itself into a band, which would occasionally delight the ears of all frequenters of the park with popular airs.

Do we over-rate the mental and moral influences of such a common ground of entertainment as this, when we say that the inhabitants of such a village—enjoying in this way a common interest in flowers, trees, the fresh air and sweet music, daily—would have something more healthful than the ordinary life of cities, and more refining and elevating than the common gossip of country villages?

“Ah! I see, Mr. Editor, you are a bit of a communist.” By no means. On the contrary, we believe, above all things under heaven, in the power and virtue of the *individual home*. We devote our life and humble efforts to raising its condition. But people *must* live in towns and villages, and therefore let us raise the condition of towns and villages, and especially of rural towns and villages, by all possible means!

But we are *republican*; and, shall we confess it, we are a little vexed that as a people generally, we do not see how much in America we lose by not using the advan-

tages of republicanism. We mean now, for refined culture, physical comfort, and the like. Republican *education* we are now beginning pretty well to understand the value of; and it will not be long before it will be hard to find a native citizen who cannot read and write. And this comes by making every man see what a great moral and intellectual good comes from cheerfully bearing a part in the burden of popular education. Let us next take up popular refinement in the arts, manners, social life, and innocent enjoyments, and we shall see what a virtuous and educated republic can really become.

Besides this, it is the proper duty of the state—that is, *the people*—to do in this way what the reigning power does in a monarchy. If the kings and princes in Germany, and the sovereign of England, have made magnificent parks and pleasure-gardens and thrown them wide open for the enjoyment of all classes of the people, (the latter, after all, having to pay for it,) may it not be that our sovereign *people* will (far more cheaply, as they may,) make and support these great and healthy sources of pleasure and refinement for themselves in America? We believe so; and we confidently wait for the time when public parks, public gardens, public galleries and tasteful villages, shall be among the peculiar features of our happy republic.

NOTES ON VINE BORDERS.

BY WM. WEBSTER, ROCHESTER, N. Y.

In looking over the March number of the *Horticulturist*, I was induced to pay particular attention to an article on the formation of vine borders, by Mr. J. STEWART, of Washington, D. C.; and having been a

practical gardener and grape-grower for some years, I felt desirous of penning a few remarks on the subject.

In the first place, I should say, from the whole tenor of Mr. STEWART's remarks

that he has shown himself thoroughly acquainted with the cultivation of foreign grapes. However widely we may differ on one point, still there is no good practical gardener but must agree with him in the majority of his remarks. Mr. STEWART says nothing can be more pernicious than to introduce a mass of putrid and decaying animal bodies, in which the roots are to extend their different ramifications, and from which they are to collect their food. The same opinions I entertain, a circumstance having occurred a few years since to settle the question to my entire satisfaction. At the period I mention, I had the charge of some large vineries in Canada; and my attention at the outset was directed to the unhealthy appearance of some of the vines in one of the houses; and feeling confident the vines were diseased at the roots, I set to work with some of the hands to dig about them, and ascertain the cause. On getting to the depth of a couple of feet, we encountered the skeletons of a horse and ox, which had been tumbled in side by side two or three years before, and which, on being a second time exposed to the air, emitted a stench almost too intolerable to bear. However, we cleared everything offensive away from the borders, and on examination I found all the roots dead which came within the influence of what had once been carrion, and which still retained all the effluvia of carrion; proving most undeniably that such was not the proper food for the grapevines. I say, let the crows and the buzzards take such stuff, for they have a natural right to it. Not having at the time any young vines to take the place of the old ones, I cut away all the diseased roots, leaving only those which were out of the influence of the carrion, headed the vines well back, and filled up the border again with suitable materials. The vines

in the following spring made a good growth of new wood,—proving that they were well enough contented with their new food.

I had afterwards occasion, at the same place, to form a new border on the outside of a cold-house, upwards of a hundred feet in length. Some of the materials which I used on that occasion being a little different from those generally used, I may as well state in due course what they were. The border was excavated to the depth of $3\frac{1}{2}$ feet, 12 feet wide, and the whole length of the house, having an inclination of about 4 inches from the outside of border to the front of house, with a drain running the whole length. The surface soil was a clay loam, which was reserved to incorporate with materials in the border. The subsoil being a retentive clay, was carted away to fill in a hollow, having laid about 8 inches of rubble stones on the bottom. On this again was laid about a foot of the pith of cattle horns, of which materials I was fortunate enough to obtain a large quantity, and also horn shavings from a comb factory. On the horn piths, (which is a bony substance, and which I consider equal to any other bones for a grape border,) was laid a good quantity of coarse manure. I was unable at the time to obtain turf suitable for the border; therefore, I used black loam, old hot-bed manure, and horn shavings. Horn piths and horn shavings I consider as excellent for a grape border, particularly the latter, which I always use for such purposes when able to obtain them, either as a top-dressing or to incorporate in the border. You will see this border was only 12 feet wide; my intention was to add 12 feet more, but circumstances prevented my completing it.

The superiority of Mr. STEWART'S 12 feet border, over one of greater dimensions, is a mere matter of opinion, and not of facts;

and with all due respect for Mr. STEWART'S judgment, I beg to differ with him in this respect,—as I prefer a border 24 feet wide for a cold-house,—and as to not being able to determine the exact locality where the food is required, only let it be placed evenly over the border, the vines are sure to find it; and where such a border has been properly made, and well watered with liquid manure, and mulched, during the heat of summer, I have never failed to find spongioles immediately in all parts of the border. Now every one knows that a grapevine, in its growing state, requires a certain amount of food. If that amount can be supplied in 12 feet border, why, well enough. Such a border, however, in my opinion, is much too contracted for the roots, and the exhaustion certainly must be greater than in a wider one.

Having freely stated my opinions in regard to the above subject, I will say a few words respecting a "cold-house," which was under my management last year. The house in question was erected in the latter part of the summer of 1848, by Messrs. BISSELL & HOOKER, the proprietors of the Commercial Nursery of this city; who, by the way, are always desirous of introducing good fruits to notice. This house is 60 feet long, and 24 feet wide, with span roof. Owing to the lateness of the season before the house was completed, as the vines were small, they made but little growth that season—many of them scarcely getting sufficiently established to go safely through the winter. Consequently my prospects, when I commenced in spring, were rather gloomy; but on being informed by these gentlemen, that the borders were made in the most thorough manner, I undertook the management with right good will. The borders are 24 feet wide, and 3 feet deep, resting

on a fine gravelly bottom, and raised 18 inches from the surface, and composed of the following materials: Slaughter-house manure, (no carrion,) old bones, oyster shells, rotten manure, lime, and loamy turf. The inside border of the house corresponds to the outside,—having a row of vines on each side of centre walk. The vines grew but little until June, when I commenced watering with liquid manure, and mulching the border. I continued the application of liquid manure once a week during the growing season, the effect of which was equal to my most sanguine expectations,—some of the strongest vines reaching to the ridge-pole, with short jointed wood nearly an inch in diameter. Now I consider liquid manure the best of all manures, as it is only in the soluble state that plants can derive any benefit from manures. It may not be inappropriate, therefore, to add that Messrs. B. & H. have a good sized barnyard, in which is a reservoir 20 feet long, 8 feet wide at top, tapering to about 4 feet in bottom, and between 3 and 4 feet deep, forming a shallow basin, with cross-drains emptying into it. Such a reservoir is a valuable acquisition to any gardener; for at no time during last summer was there the least want of liquid manure. There is, indeed, another use to which it can be applied in winter. In the fall of 1848, this reservoir was filled with loamy turf, and allowed to remain and soak in the liquid all the winter. It was thrown out again in the spring, and allowed to remain in a heap until the fall. It was then turned over, mixing at the same time some rotten manure through it. This remained exposed to the frost of last winter, and is now a most admirable compost for grapevines, either for pots or borders. Yours respectfully,

WM. WEBSTER.

ROUGH NOTES, FROM THE WEST.

BY DR. JOHN A. KENNICOTT, OF THE GROVE, ILL.

YOUR LEADER, for April, is above all praise, because it is not only thoughtful and truthful, but bold and liberal. We, of the west, had hoped for this at your hands, but scarce expected it. For one, who believes he speaks the sentiments of many, I thank you.

The agricultural press does "begin to feel that it is of some account in the commonwealth;" and it will, ere long, teach "the farming class" to know and assert "its rights in the state."

It is a law of nature, that all have a right to life, and the liberty to pursue happiness, provided that we neither injure or interfere with the rights of others. And at this day, when the race of men is improving in the mental, more rapidly than some other animals are improved in the physical; in an age when nothing is impossible—when utility and the laws of progress, not "old custom," govern all things—*education*—"knowledge is" not only "power" and wealth, but happiness. The indigent farmer has, therefore, the same right to pursue this sort of happiness as he "born with a silver spoon in his mouth." And he has the same political rights to colleges for his specific education as the divine, the lawyer, the doctor and the soldier; all of whom have been more or less provided for by government.

And I have even heard it hinted by some bold farmers, who are in the habit of thinking and calculating, (a notion bred of this same agricultural press, I fancy,) that we have a somewhat better political right to the patronage of government than all other classes put together; for we greatly out-count them *at the polls*. And then, we can

plead in extenuation of this rash thought, the musty old maxim, that the services of the farmer and the mechanic are those alone naturally indispensable to the existence of the immense mass of human beings now brightening the glad earth, as they no longer *creep*, but fly over it, in their course towards the setting sun, and the perfection (which must happen somewhere in the twentieth century,) of the Anglo-Saxon race.

We ask Congress for an *Agricultural Bureau*, connected with the machinery of our government. We ask a mere trifle. It will not cost so much as the maintainance of a sloop of war, in full commission, nor half as much as the interest on the expenditures for the construction of a single harbor and military fortification on our Atlantic sea-board; and this slight aid to agriculture and horticulture would form, if nothing else, a nucleus—a central office, or general agency for all the state agricultural and horticultural societies—where all could meet on common ground, to which all could report, and from which the collections of facts, and things, from all parts of the world, could *re-emanate* in a condensed, or proportioned form, and find their way equally, and without cost, to all interested throughout the Union.

It is to be hoped that the present Congress will see this affair in its true light, and act as becomes our representatives, and the great interests connected with agricultural improvements, and "the fine arts of rural life." We have never been obtrusive. We have never seriously demanded aid; for we have expected it would be spontaneously given, as soon as we were prepared to re-

ceive and turn it to good account. That time has now arrived, and we cannot be denied.

Your remarks on the progress of horticultural science, and the benefits to be derived therefrom, are not overstrained—I think not quite up to the mark even, though I am perhaps ultra-enthusiastic on this subject. Still my extreme views have been, very recently, adopted by high authority. Would you have believed it possible that a learned professor in one of our most flourishing medical colleges—and no pomologist, by the way—could have had the hardihood, as well as the liberality, to review the proceedings of our convention at Syracuse, in an old school medical journal, of high repute, and, moreover, endorse, in his editorial capacity, my very unorthodox notions “on the prophylactic and curative properties of ripe fruits?” And yet, such is the fact; and further, I have received declarations from many eminent physicians, not only endorsing, but adding new evidence and greater weight to my broad assertions. From all of which, I am led to believe, that the day is not distant when this doctrine will be that of our books and our schools of medicine.

The science of medicine, as well as all the useful arts, has made giant strides towards perfection within this nineteenth century. Free air and cold water, now considered indispensable in the treatment of febrile affections, you may well remember were strictly prohibited not long since,—and fruits were deemed still more dangerous; and now they are often permitted, and, indeed their juices, from the lemon to the watermelon, are freely prescribed by our best physicians.

In the western country, a great majority of persons either suffer from habitual con-

stipation, or the reverse. These conditions of the digestive organs are produced by faults of diet, especially eating too much fat pork, *whiskey drinking*, and *the use of purgatives*. The quantity of cathartic medicines vended in the west is enormous; and their mischievous effects are sufficiently obvious, though incalculable, and unknown to all, save the observing physician.

For all this wide spread misery, on which quacks fatten—this waste of health and life—we offer a cheap, safe, and efficient remedy, in *fresh garden vegetables*, (seldom eaten west,) and *ripe fruits*.

All cultivated fruits are wholesome, and remedial in their season, and their climate. In some countries, however, particular sorts are not perfected. In England, for example, apples are often too acid and immature, and in southern climes too dry and premature, to be either very delicious or very wholesome. And occasionally the best fruits will be found to disagree with particular individuals, from constitutional idiosyncrasy.

During my residence in New-Orleans, I observed that the “creoles” who ate liberally of fruits and fresh vegetables were seldom ill, and never liable to febrile affections, in comparison with our other population. The usual, and indeed the best, breakfast for a hot climate is a “French roll,” ripe berries, peaches, grapes, figs, oranges, tomatoes, cantaloupes, bananas, &c., as they come in season, and the universal bottle of good “table claret,” *without animal food*. The same for dinner, with the addition of soups, or gombo, a little exquisitely dressed fish or flesh, and plenty of vegetables, prepared as no one better than a Creole can do it. For supper—nothing.

Yours, J. A. K.

The Grove, Ill., April, 1850.

A LETTER TO LADIES IN TOWN.

BY A NEW-ENGLAND COUNTRY GIRL.

MR. DOWNING—*Dear Sir*: I don't think you have many lady correspondents to your delightful Horticulturist. I suppose the reason is, that we women have nothing new to say about fruits or flowers; or perhaps, taking warning from our common mother, we shun *pomology*. Now I am no wiser than any of the rest. I could not graft a tree, for my life. I am tired out hearing of "remarkable pears;" and as for botanizing, I should as soon think of carving neighbor SIMPSON's dear little baby to pieces, to study practical anatomy, as pulling one of my precious flowers apart, to count its slender stamens, and give it a polysyllabic name. But I am a country girl; and knowing that many city ladies read your book, I want to borrow its pages, to try if I cannot lure some of those languid feet, and delicate hands, into my haunts of wood and field this coming summer. Is not this a laudable object? If I *should* persuade some fair votary of operas and balls into my wide concert room, how beautifully those weary lips would smile and redden in the keen fresh air! Ah, my pale and lovely sister, you may tread with light steps the sunny pavé of Broadway, or roll over the avenues in your easy carriage, or enchant all Harlem with the horsemanship you display; but you don't know what life is till you have been with me, treading

"In glory and in joy along the mountain side."

I know the pavement is smooth walking; I do not despise beaux; and I like beautiful dresses, and French shoes, as well as any belle that ever lived; but I love the woods best.

Put on my water-proof boots, and that

sun-bonnet. We will show you how to climb fences; and now—your are fairly entered into bush-land. You like flowers?—bouquets of rare exotics, and the heavy sweetness of Heliotrope, and Cape Jessamine, perhaps;—but look at that sunny hillside! see the dog-tooth violet, in full bloom among the dry leaves, tossing its golden turbans to every breeze, and looking stately as a flight of captive princesses from fairy land. There, under your feet, is the frail Anemone, with pink buds and white blossoms.' Behind that stump nestles the bright blue Liverwort; and on the edge of this clear brook the delicate "Spring Beauty" bends over the water timidly. Over head, the leafless boughs rustle and wave against the serene sky, and the dry grass yields softly to your feet beneath. There, too, are violets, purple and white both, and the meadow grass is strewn with "Innocents." Nor is the wood lonely; there is a woodchuck's hole, and the yellow sand before his door is freshly thrown out. Dare I tell you what that was that stirred the leaves yonder? You would scream, I think,—yet needlessly; it is only a harmless striped snake. Then, the innumerable frogs, which hold a congressional session in the swamp, do not hold their peace in broad sunlight. There are no pistols in their breast pockets, my dear! All this noise and threatening roar is "vox et præterea nihil." And if this nook of forest is lovely now, what will it be in the summer, when the partridge berry shows its fragrant and tiny blossoms; when wild honeysuckles shine through the columned shades, and the sweet wild roses wave their long gar-

lands, mixed with sweet briar boughs, and perhaps a clinging, loving clematis, pearl budded, around both. Oh! leave Broadway, with its ceaseless toilettes and flirtations; let the long piazzas at Saratoga rest for one summer, forget your jewels and flounces—even your beaux—(unless they are lovers,) and come into the real country. Be true, natural women, for once. Take lodgings with some sturdy old farmer, if you can, eat rye bread, and keep in the “lots” all day long. Glove your white hands, and *bonnet* as deep as you please, but eschew green veils; and if you do not return in October with rosier cheeks, brighter eyes, and fresher hearts than ever yet commenced a winter’s campaign, I give you leave to tear my hair mentally, and call me, even in print, a false and deceitful

WILD FLOWER.

In the Bushes, May, 1850.

Here is a good sermon from fair lips, judging from the delicate hand in which this epistle comes to us. If the post-mark had not betrayed the whereabouts of our “new contributor,” (we shall be glad to hear from her again,) the little quotation would; for nowhere, but in New-England, do country girls quote Latin.

As to the more important matter—the

good advice she gives—we ratify it with all our editorial authority. There is such a constant turning of all eyes to the *cities*, for all laws pertaining to manners and customs—what to do and what to say—that we are in danger of becoming a nation of cockneys. To find a woman who is in earnest about the country and country life, though she has worn “French shoes,” is as refreshing as to find a well of sweet water and a grove of palm trees in the midst of the desert. America, everybody says, is “the paradise of women;” but we are obliged to say, they live in paradise, as if the open air of that desirable climate were contaminated; that is to say, they contrive to take as little of it into their lungs as possible. Alas! if Mrs. ELLIS, or some other “woman of the nineteenth century,”—instead of writing books to teach “mothers and daughters” what to do to be happy—would only persuade VICTORIA and half a dozen real live DUCHESSES—anybody, in short, who could and would *set the fashion*—to come to this happy paradise and demonstrate that *ladies* can and do walk, and ride, and work in the garden, and become real flesh and blood creatures, it would be a blessing to the nation worth all California, Mexico and Cuba,—yes, and even Spanish South America, in the bargain. ED.

COAL CINDERS FOR PEAR TREES.

BY P. M. C., NEW-YORK.

WE have examined the rows of trees referred to in the following communication, and can vouch for the good results recorded therein. ED.

DEAR SIR—As I notice some discussion going on, respecting the value of mineral manures for fruit trees, I send you the following brief notes on this subject:

Having heard it stated that the sweepings and cinders of a blacksmith’s shop made an excellent manure for the pear tree, I determined to make trial of it.

Accordingly, four years ago this spring, I procured three or four cart loads of this material. It was composed of a variety of matters,—cinders of the forge, fine scales

of iron, iron filings, parings of hoofs, clinck-ers, charcoal dust, and the ashes of bitu-
menous coal; the latter constituting prob-
ably about one-third of the whole.

In order the more satisfactorily to know
the result of the application, I chose for the
purpose some rows of dwarf pear trees, in a
piece of strong loamy soil. They had been
planted two or three years.

I put *a bushel* of the sweepings referred
to around every other tree, in each row,—
leaving the alternate tree untouched, but
receiving in other respects the same treat-
ment and culture.

After applying the blacksmith's sweep-
ings, I spread it over the ground as far as
the roots extended, and turned it under
about three inches deep.

The first year there was very little, if
any, effect perceptible. All the trees were
in good condition; those that received the
dressing and the others nearly alike in
growth and health.

The second year, the dressed trees took
a start. They grew a third more in height

than the others in the same rows; the
wood was stronger, and the buds longer.

Last year the same difference in growth
and vigor continued; so that now the trees
are—some of them—half as large again
as those not dressed with the sweepings.
I have observed, also, that the leaves are a
darker green, and the fruit, though not much
larger, has been much fairer in appearance.

The result was so satisfactory that I have
since engaged all the sweeps that are to be
had in my neighborhood, and mean to try
them upon other fruit trees.

I must also be allowed to add that *four*
pear trees, to which I gave, by way of ex-
periment, a peck of *leached* wood ashes
each, at the same time with sweepings, have
all along been decidedly the most vigorous
of all, and have borne the finest fruit.

I follow the plan suggested some time
ago in the Horticulturist, of keeping the
trunks of my pear trees sheathed with straw
all the year round; and since I have done
so, have not been troubled with blight.

Yours,

P. M. C.

New-York, May, 1850.

ON THE GOOD EFFECTS OF MULCHING.

BY A CONSTANT READER.

SIR—It seems to me that when any one
has found a practice in horticulture not
generally known to be of great value, he
owes it to his neighbors and fellow labor-
ers in the cause to make it public.

I tried the value of *mulching*—i. e., cover-
ing the soil over the roots of trees with
straw, litter, sea-weed, or whatever else
may be most convenient for retaining the
moisture, keeping the earth cool, and pre-
serving a uniform temperature—pretty ex-
tensively last year. I not only mulched
newly transplanted trees, but garden vege-

tables, egg plants, okra, &c. Encouraged
by the good results, I covered the ground
under melons with straw; and this year
am trying it with various flowering shrubs
and plants.

The great advantage of mulching is un-
questionably for transplanted trees. I think
it may be safely said that a tree having
only one-third of its original roots left, (and
the top, of course, shortened-back in pro-
portion,)—such a tree as would die nine
times out of ten with common treatment of
watering, &c.—may be invariably saved by

mulching. Watering trees that have been transplanted every day or two for a month or six weeks afterwards, as I have seen many do, is a matter of no small labor and cost. It helps to kill the tree, I am satisfied; if not by the constant and violent alternations of wet and dry, which the tree suffers in this climate, then with the hardening and baking of the ground which it causes. On the other hand, the tree once planted, it can be mulched (if the materials are at hand,) in five minutes; and from that time forth it demands no more attention—no carrying of water—no stirring of the ground. The ground is also kept in that state of steady moisture and coolness most favorable to the growth of new roots; and if there is any vital power in the tree, it is sure to show itself in this way.

As to the importance of preventing the soil from parching up in the summer, especially when you are raising somewhat delicate plants, every one can see it for himself, without demonstration. I have found it easy to cultivate some garden favorites in this way, that gave me a good deal of

trouble before I tried it. Indeed, so great is its efficacy that some German agricultural writers, as you are doubtless aware, have not hesitated to take the ground, that covering the ground with a coat of straw acts more beneficially upon a crop than giving it a coat of manure of any description. Although I am not prepared to take this extreme ground, I am confident that mulching, especially to the fruit and ornamental tree-grower, is a practice of great value, and much too little understood by most persons. Yours,

A CONSTANT READER.

Dutchess county, N. Y., May, 1850.

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REMARKS.—Our correspondent is not a stronger advocate of the advantages of mulching than we are. Indeed, we have, for the sake of experiment, covered a piece of ground with straw in the German manner, in a small vineyard of about an acre in our own premises, in order to notice if there is any other value in the application than that arising from maintaining the soil in the best condition for growth. Ed.

REPORT ON THE FRUIT GARDENS NEAR PARIS.

BY ROBERT THOMPSON, OF THE HORT. GARDEN, LONDON.

[FROM a long and valuable report, made to the Horticultural Society of London (*Journal Hort. Soc.*), by Mr. Thompson, the able superintendent, we extract the following pages, which will be found exceedingly interesting to *all growers of choice fruit trees*. The theory and practice of *pruning* fruit trees are better understood in France than in any other part of the world; and if practical lectures, like those given by M. HANNOY, in the Luxembourg gardens, could be

delivered in some agricultural or horticultural school in this country, they would be of incredible advantage to the progress of scientific fruit culture. Ed.]

The garden committee having considered it desirable that I should proceed to France for the purpose of reporting to the council what I might observe most worthy of notice in the fruit and kitchen gardens there, it was deemed expedient that I should proceed thither early in the spring, on account of seeing the operations of pruning and

training, as well as to embrace the opportunity of availing myself of the important assistance of Mr. Francis Rauch, which might have been lost by delay: the period of his stay at Paris being then uncertain. Having resided four years in and near Paris for the purpose of accurately observing everything connected with horticulture, he was eminently qualified for the task he kindly undertook of conducting me to places most important to be seen in regard to the object of my mission, and likewise for obtaining the best possible information, on all essential points, from the various horticulturists whose establishments we visited.

I accordingly went from London to Southampton by railway, February 27th, and sailed the same evening for Havre, where I arrived next morning. Here there was little to be seen interesting in a horticultural point of view. I observed, in passing through the market, some good specimens of the Easter Beurré pear, exposed for sale under the names of Bergamotte de la Pentecôte and Doyenné d'Hiver. This, with some Old Colmars, St. Germain, and Catillacs, were the only kinds of pears worthy of notice. Of apples they had some good Reinettes du Canada, which they call Reinette du Canada, or Reinette de Bretagne; some Nonpareils, Reinette Grise, Pigeonnet, Reinette Franche, Reinette de Caux, or Belle Reinette de Caux, a very handsome variety, and, from being generally exposed, its cultivation must be rather extensive in this part of Normandy. There were several varieties of apples named Reinette Franche; the one so called at Havre is the same as the Reinette Franche Grauwe of the Dutch, and is an excellent late dessert apple.

Of vegetables, Salsify and Scorzonera were very plentiful; so much so that it may be inferred the demand must be much greater than in London. Cabbages and savoy were rather indifferent, but Brussels sprouts were good. The excellence of this green is certainly not sufficiently appreciated in England, where it is apt to degenerate in many situations, but in others there is proof of its seeds having been saved for years as genuine as any imported from the neighborhood of Brussels; the plants producing abundantly jets, or sprouts,

as round and compact as they possibly could be.

I proceeded, March 3d, to the *Jardin des Plantes*, Paris, and saw the arboretum, the plant-house, Ecole botanique, and nurseries for ornamental plants; and afterwards the economical and fruit-tree departments, which are exceedingly well managed under the superintendence of M. L. P. Cappe.

The pyramidal trained pear trees are from 10 to 15 feet high, or more, having a regularly tapering outline from the base to the top, where they terminate in a single shoot. The young plant is stopped according to its strength, and so as to furnish side branches. These are not in stages at uniform distances along the stem; on the contrary, almost every shoot which breaks out from the stem is allowed to grow; but the laterals produced on these are pinched in summer, and even such of the leading shoots as appear likely to become too strong for the others are stopped. All the cultivators from whom I had an opportunity of obtaining their opinion on the subject, admitted the advantages of summer pinching; whilst some regretted that circumstances prevented them from practicing it to the extent they could wish. It is, however, well followed up by M. Cappe. He pinches all the young shoots, not required to form branches, when in a very young state; when they have scarcely pushed a finger's length, they are shortened to about an inch, or from that to an inch and a half. The portion left forms the basis of one or more fruit buds, bearing fruit in the following season, or a spur on which blossom buds are formed for bearing in the second season.

The advantages consequent on properly managing fruit trees with regard to summer pinching, are so important that attention to the subject cannot be too strongly urged. On the whole, it occasions little or no loss of time; for the confusion which would otherwise accrue is prevented; and this being the case, it is only doing that in summer which, if neglected, would occasion as much loss of time in winter. I am aware that many have more time to attend to trees in winter than in summer; but let the advantages of summer pinching be experienced, and doubtless, in most cases,

due provision will be made for its performance. By the operation, the shoots necessary to be retained have the great advantage of more light and air than would be the case if crowded by a multiplicity of laterals, retained till the time of winter pruning, when they must obviously be cut off, either so close as to leave no bud to push, or shortened to within a few eyes of their bases. In the former case the branch is left naked; in the latter, when the tree is sufficiently vigorous, the eyes left generally push other shoots, to be again cut back in winter; and thus crops of shoots are annually produced, instead of fruit, for many years, or until the tree approaches the state of old age.

The plan which M. Cappe pursues succeeds admirably in the climate of Paris. The fruit on the pyramid pear trees under his management is stated on competent authority to have been last year exceedingly abundant, large, and fine. This season the trees are healthy and vigorous, and well furnished with blossom buds. It may be said that the generally dry, clear air of Paris is very different from the cloudy and moist climate of many parts of Britain; the one being favorable for the formation of fruit buds, whilst the other favors the growth of wood and leaves; and therefore, circumstances being different, the same practice may not be equally proper for both. There are, moreover, instances of circumstances differing so widely as to require opposite methods of culture. But this does not hold good as regards summer pinching. In England the drawback is a dull atmosphere; the shoots and foliage want more air and light. Summer pinching affords this, inasmuch as it prevents the crowding and shading of wood and leaves necessary to be retained, by that which is superfluous; and therefore it must be considered of still greater utility in dull climates than in bright, more necessary in England than in France. It is generally admitted that "where nature does most, man does least;" but with regard to the management of fruit-trees an exception must rest till summer pruning receives as much attention in England as it does in the Jardin des Plantes, and elsewhere in France.

Supposing the branches of a tree are properly thinned and regulated at the winter pruning, and that so far as they extend, their number is quite sufficient for the space they occupy; presuming, also, that the tree is in good health, a number of laterals are sure to spring. They are, of course, superfluous; and every one of them should be pinched as already mentioned. If the last year's shoot has been shortened at the winter pruning, then, besides the terminal one on the part left, one, two, or three next to it are almost sure to push; and these M. Cappe commences to check by pinching when about three inches in length; but those nearer the base of the shoot he allows to grow till they attain the length of six or eight inches before he shortens them. The terminal bud is of course allowed to go on for the prolongation of the branch. It frequently happens in France, and the liability will be still greater in the climate of England, that after a shoot is pinched back, the newly-formed buds on the part left will push a secondary shoot in the same season. When this is the case with those under the care of M. Cappe, he also pinches these secondary shoots to an inch or an inch and a half from where they originate. They rarely push again; but if they do, their growths are again reduced as before.

The *winter pruning* of pyramid Pear-trees is almost reduced to a mechanical operation, when the summer management has been properly attended to. Keeping the tapering form in view, it consists in cutting each shoot a little shorter than the one immediately below it, taking care to cut to a bud situated on the side of the shoot towards that direction in which it would be most desirable the prolongation should proceed. Shoots that are too vigorous for the rest are not cut to a bud on the upper side, but to one situated below.

Some trees appear to be much admired by every one on account of the introduction of another feature of regularity in training, besides that of a merely tapering contour. These had what is called a *tutor*,—that is a straight perpendicular stake, to which the stem is trained; and from the top of this stake five wires are stretched to as many equidistant points on a hoop near

the ground, or in one instance to five short stakes. The wires represent the angles of a five-sided pyramid—a pyramid apparently fifteen feet high on a pentagonal base. Branches are trained directly from the stem to each of the wires. In order to convey some idea of these trees, one may imagine five upright trellises or screens projecting from a central upright, forming the partitions of as many equal recesses, widening outwards. The branches form such partitions with good effect as regards regularity; and when they become ornamented with leaves and fruit the whole must prove an interesting sight. The trees had a fruitful appearance.

Instead of the branches radiating from the stem in five directions, it might be found more convenient to train them out to four points, say east, west, north, and south. It may, however, be observed, that, in the pear tree, five buds form a spiral once round the shoot or stem; or, in other words, supposing the leading shoot to be perpendicular, every fifth, tenth, fifteenth, &c., bud will be in the same vertical plane. Therefore, if the number of buds between one branch and that next above it be always a multiple of five, the branches radiating in each of the five directions will originate exactly above each other.

The trees above described had been formerly grown as pyramids in the usual way, with branches extending promiscuously; but M. Cappe is of opinion that by commencing with a young tree, the tutor and wires may be dispensed with. In exposed situations the wires form excellent stays; and where they are employed, a comparatively slender stake will be sufficient.

A curious specimen of trellis-work was standing against the end of one of the sheds adjoining the plant houses. It had been formed by crossing and inarching the branches of apple trees, so as to form rhomboid interstices. The piece had been grown from three stems, and was three or four feet high. The branches were so completely united, that although the bark was partly off, and the wood somewhat fissured by exposure, it was impossible to say with which stem in particular the vegetation of the respective branches had communicated. I am of opinion, that if any one of the stems

had been sawed over, the branches it supported would have derived nourishment to keep them alive from the other roots. It appeared to have been removed from the place of its growth many years; but previously it must have formed part of a very strong living espalier.

Several of the hot-houses are very old, and will probably be pulled down as soon as the contemplated additional new ranges are finished. At present there is not half sufficient room for the large collection they contain. The new palm house is lofty; and in it there are some magnificent specimens.

In some of the hot-houses, heat is derived from large stoves of white stoneware, placed inside. They have apertures at the sides for supplying heated air, somewhat resembling the Polmaise system. They are adapted for burning wood, and appear to have been in use for many years. The state of the weather required them to be hard at work when I had the opportunity of seeing them.

In the *Ecole de Botanique*, the plants are named on different coloured labels; Red, indicating plants used in medicine; Green, alimentary; Blue, those employed in the arts; Yellow, ornamental; and Black, poisonous plants. I may here mention that M. Neumann, who has the superintendence of the plant houses, was for some time in the Mauritius. He informed us that the *Aërides odoratum* is there used as tea, a very few leaves being sufficient for infusion. I thought it might be employed merely for imparting a flavor to the tea; but he said they used the *Arëides* leaves without employing any other along with them.

Gardens of the Luxembourg.—We proceeded to these gardens, March 5th, to hear the lecture on pruning, by M. Hardy, at 8 A.M., in the open ground. M. Hardy delivers two lectures every week, free to the public, on pruning, grafting, planting, and in short, everything connected with the management of fruit trees, finishing the course in the end of April. He has generally from 300 to 400 hearers, among whom are young men employed in the Luxembourg Gardens, the *Jardin des Plantes*, and other establishments, by permission of

the respective directors. In various instances the young men afterwards make up for the time they are thus absent. But the greater number of those who attend are amateurs. M. Hardy also lectures in the afternoon to gentlemen wishing to obtain a knowledge of the management of fruit trees. The admittance for each person to any one of these is, however, 3 francs. From fifteen to twenty gentlemen usually attend the afternoon lectures.

In his first lecture, I was informed, M. Hardy explained the physiology of the tree, the action of the sap, the names of the different parts of the tree; the stem, branches, and the technical distinctions of the latter, such as *Rameaux à bois*, *Rameaux à fruit*, *Brindilles*, *Lambourdes*: branches for wood; branches for fruit; fruit bearing twigs, and spurs. The term *brindille* requires however a little more explanation: Pear trees recently raised from seeds are usually armed with thorns, a provision for the defence of the young plants; but naturally, as the trees get older, and more especially when influenced by cultivation, the thorns are produced less abundantly, and by degrees they disappear. The thorns latterly produced lose their original character. Instead of being naked, one, two, or more very small buds may be observed upon them; but still they are pointed, and this being the case, they yet retain the characteristic of a thorn, and cannot elongate in the following season. Some after productions may however be seen to terminate in a small bud, and the substance throughout is much softer, but still harder than the regular shoots on other parts of the tree. These growths may be then looked upon as thorns modified; they become capable of elongation, and are what the French term *brindilles*. They proceed at right angles from the branches producing them; and are not inclined to grow upright. They sometimes bear fruit before the other branches; but when the trees get into full bearing, these *brindilles* are not required.

M. Hardy concluded by showing how to handle and properly apply the knife.

The second lecture, he took a maiden plant, and explained how it ought to be dealt with according to the modes of train-

ing for which it might be intended; then a plant two years old; another three, and so on.

For the third lecture, at which I was present, he had a pear tree, intended for a pyramid, planted in the centre of a circle, formed by a rope, about fifty feet in diameter, outside of which the people stood to hear the explanations, and see the mode of operation. In the tree selected for illustration, M. Hardy pointed out faults from not pinching the shoots in the previous summer; and some others in consequence of former winter pruning. The reasons for cutting each branch as he did, were successively given, as well as an explanation of the bad effects of cutting otherwise; and ultimately the pruning of the tree was completed in good style. We had an opportunity of closely examining it after the lecture was over.

We then inspected the different quarters planted with pyramid pear and apple trees, and those containing cherry and plum trees. As there is no wall for peach trees, these are trained against a trellis, backed with straw mats; and with this assistance the fruit ripens perfectly well.

All the quarters containing fruit trees are surrounded with borders, planted with cherry, plum, and apricot trees, as standards; and some with excellent effect are trained in form of a *vase*, or *en gobelet*, dwarf, or with a stem five feet or rather more in height. The head is formed hollow, in shape like a goblet, the shoots being annually tied to hoops of wood, adapted to the circumference required to give the desired form. Two hoops are sufficient, the two-year old wood being tied to one; and the equidistant regulation of the one-year old shoots is effected upon the other. As the *vase* or *goblet* widens, of course hoops of greater circuit must be prepared, either of new materials, or by introducing an additional piece. In some instances the hoops were formed of round, apparently one-fourth inch, iron rods; but wood is preferable to iron, for vegetation in contact with the latter is apt to be injuriously affected by the rapidity with which it heats and cools. Shoots are apt to spring up in the centre of the goblet; but they must be pinched in summer; and so

all other irregularities of growth appear likewise to have been. The form is very ornamental; it can be produced at little expense; and the trees were well furnished with fruit buds. Suppose a tree to have 6 shoots, let them be tied at equal distances to a hoop placed horizontally, and then shortened a few inches above it, or so as to leave them a foot or more in length. From each of these, two shoots may be trained to the outside of a somewhat wider hoop in the following season; and thus by annually introducing hoops of a width proportionately corresponding with the respective diameters of the vase intended to be imitated, the desired form will ultimately be produced. The head of the tree will be completely balanced; and the branches will be more nearly equidistant than they could be by any other mode of training as a standard. I should prefer wooden hoops to iron ones. If weak, or if two or more pieces must be employed for the hoop, its circular form may be preserved by two small rods, secured diametrically across it.

Adjoining the fruit tree quarters there is a compartment used as the Experimental Garden of the Royal Agricultural Society of Paris. The space, however, is too limited for any extensive experiments being undertaken; and the backwardness of the season had prevented any thing interesting from being commenced.

The Botanic Garden of the Ecole de Médecine lies in a low situation; but this is doubtless an advantage in the hot dry weather. The plants are disposed in straight beds.

In one of the quarters there is a collection of 1800 vine plants, from all the departments. This was chiefly formed by Chaptal, when Minister of the Interior, in order that their nomenclature might be settled, and their respective merits ascertained. I am not aware that the original intention has been fully carried out; but the vines are still kept in good order.

It may be interesting to mention, that in the Gardens of the Luxembourg, and Jardin des Plantes, the best collection of fruit trees in France, that of the Chartreux, was preserved; and also that from these gardens the sorts were obtained by the society when the collection was forming for the

garden at Chiswick. This was the best source whence the identical varieties described by the celebrated Duhamel could be obtained, as appears by a communication from M. Thouin, appended to a list of grafts sent to the society in 1820, and of which the following is a translation:

"Various causes having prevented my worthy colleague, M. Bosc, from taking off the grafts requested for the Horticultural Society of London, from the nursery of the Luxembourg, he begged of me to make the collection. This I undertook with the greatest pleasure, as, in obliging my friend, I may also render a useful service to an honorable body to which I am proud to belong.

"The society may be assured that the names of the grafts precisely correspond with the varieties described by Duhamel (*Traité des Arbres Fruitières*, Paris, 1768.) The following are the means which were employed, by which we are able to accomplish so important an object.

"In 1793, when the question was agitated of suppressing the monasteries, and placing their property at the disposal of the state, foreseeing the destruction of the garden of the Chartreux at Paris, and anxious to preserve to horticulture the originals on which Duhamel had established his nomenclature, I begged and obtained permission from the minister Roland to remove whatever trees I pleased from the complete collection which that garden contained. They were labelled according to the Catalogue of the Chartreux, and transplanted in the garden of the Museum, where they were arranged in such a way as to form a school for the instruction of nurserymen, gardeners, country gentlemen, and even botanists and physiologists.

"The garden of the Chartreux was soon after destroyed; there remained no vestige of it; and it was not till ten or twelve years after, that it was re-established in the Luxembourg, by rooted plants or grafts taken from our school of the Museum, in the Jardin des Plantes.

"On the formation of that school I invited Christopher Hervy, gardener to the Chartreux, a man well informed on the subject of fruit trees, and who supplied Duhamel with a great portion of his no-

menclature, to make a general examination at the periods of the flowering and fruiting of the trees, to prove the identity of the names of our varieties. This labor was pursued during the first six years of our plantation in the school, in such a way as to correct errors which might have crept in. There now, therefore, remains no doubt on this head. But this is not the case with many of the varieties obtained from various parts of France, and more particularly from abroad, since the publication of Duhamel's work. The nomenclature of these is vague; in many cases the sorts have proved syn-

onymous with those already known; and it is necessary to wait till the trees have fruited in order that they may be correctly named."

It thus appears that the collection of the Chartreux, made during a period of 150 years, was preserved by the exertions of M. Thouin; and of that collection the Horticultural Society of London received with the above communication, grafts of 48 varieties of plums, 99 of apples, and 145 of pears. Peach and other kinds of fruit trees were subsequently forwarded from the same source.

CRITIQUE ON THE APRIL HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

Your Leader.—Yes, old-fashioned stage-coach travelling, to one who loves to see the country as he passes through it, *was* something. In pleasant weather, whenever I could, I always mounted the seat with the driver, and thought it a privilege. And I enjoyed it, too; for I could then see the country to the best advantage. But this hop-skip-and-jump method of rail-roading is death to the *poetry* of travelling, although one may occasionally, in fine weather and open cars, take a rapid and tolerably satisfactory view of the chief features—but nothing beyond—of the country he passes.

It is amusing, now and then, to see how *very* particular some travelling gentlemen are, to notice *all* the features of the country over which they pass, and then *journalize* them, for the edification of the good public, both at home and abroad. I give you an instance from an eye-witness. When DICKENS was in this country—where, on his arrival, the leaders of the literati in Boston and New York made especial "Judys" of themselves in his reception, for which he afterwards very characteristically paid

them off in abuse—he went, as every foreigner does, to Niagara. When at Buffalo he took the cars, which follow, for most of the way, close upon the bank of the Niagara. One would have supposed that a river like that,—world-famous for its cataract, its rapids, its frightful chasms, as well as for its beautiful, placid, and bay-like scenery,—would have attracted his attention. But quite another thing. Mr. DICKENS, with his wife, entered the cars, pulled some papers from their pockets or bundles, looked over them the whole way, with an occasional interchange of monosyllables to each other, and scarce looked out of the cars, though a pleasant summer day, until they arrived at the Falls, when they instantly removed their luggage to the truck, and went with it at once to the ferry down below the cataract, without waiting a moment, or asking a question, excepting which was the readiest way into Canada! And that, too, when he had been kindly furnished with letters to sundry gentlemen, sojourners there, who had also been requested by their friends in New York, to pay him the usual attention

given to distinguished foreigners, in showing him the attractive features of Niagara scenery, as well as their hospitalities! There is a traveller for you, fit to describe a country! and he is a type of hundreds. Yet DICKENS wrote a book when he got back to England, "describing" our American scenery, as well as manners!

You perceive that I have, thus far, but commented on the metaphor which introduces you to the subject of discussion. No matter. It is a good text for my purpose, so far.

I am glad to see you blow up those foreign gardeners, too many of them quacks, as almost everybody here, who has had occasion to employ them, pretty well knows, although there are many practical, good, modest men among them. But I have rarely known any one of them who, according to his own story, was gardener, when in England, to any thing *less* than a Duke, and left his Grace's employ because things were not satisfactory to his—the gardener's, mind you—satisfaction! What work do we often see in the first essays of these "highly educated" gentlemen gardeners, in *our* country! Put them to school at once on their arrival, and in time they'll become what they now profess to be—good for something.

Rough Notes on Horticulture, &c.—Were I to say what I well might say, from the little personal knowledge I have of Doctor KENNICOTT, your readers would think we were bandying compliments; therefore, I'll let him pass for the present. But I do like such "notes." There is a freshness about them *sui generis*. Excuse my Latin, for I can find no English that gives the exact idea like it. I'd like to have a long summer's day horse-back ride with you, Doctor, over those grand Illinois burr-oak openings—lunch in saddle-bags—old fashion—with

a clear spring, under a broad tree, to eat it by—and then a long winter's evening, before that crackling hickory fire, in your log house, where stars would shine upon us through the chinking. Rely upon it, we'd make a *stretcher* of that same night, before we got through with it. How many delightful—aye, glorious—nights have I passed in those same log-cabins, stretched before their huge fires on a Buffalo-skin, in years gone by! Yes, when, after a long social evening to close an active day, promiscuously, in the same primeval attitude of rest, lay scattered, judges, lawyers, suitors, and travellers, during their sojourn at the new county-seat, in court term! And among them are since some of our eminent jurists and statesmen. Oh, what a training does this same woods and prairie life, to finish off with, give, in energy and practical character, to our American men!

But, to the point. The great states of the west are to be the future fruit paradise of America, and 'tis most cheering to all lovers of fruit cultivation, to hear the success of the efforts made there to produce them.

The Uses of Charcoal.—There can be no doubt of it. It is the greatest purifier and fertilizer in the world—in its own way. It can hardly be applied too freely—let it be only pulverized thoroughly.

On the Beauty of our Indigenous Plants.—Here is one who talks up to the mark. Had Dr. COMSTOCK done no more than bring the splendid *native* shrubs and plants and flowers into notice in this manner, (why don't he give their common or vulgar names, together with the scientific ones?) his services would deserve a gold medal, and the especial thanks of the whole gardening community. Let any one who doubts the splendor and beauty of our wild American flowers, but spend a summer among our

western prairies and broad oak openings, in their wild, luxuriant estate, and then see what floral treasures they will disclose! From earlist spring to latest autumn—from the tiniest, trembling thing that shoots its pale blossom through the young and reeking grass—onward, through every week of summer, in white, and blue, and red, and yellow garniture—from dwarf to giant—does the wild flower of the prairie bloom, and wave, and sweep, in unmatched variety and magnificence—redolent, too, of odors most sweet, and arrayed in colors most gorgeous. What a mine is here for the labors of one who loves to investigate the floral treasures of our country!

And the *Kalmias* and the *Rhododendrons* which grow on every rocky, spongy, scrubby hill of the New England and Middle States, covering, in their season, with rosy clumps of blossoms, a thousand spots where hardly a thing else will grow! Beautiful to the *sight* alone—their only drawback.

"Full many a flower," the poets say,

"Is born to blush unseen;"

But you, although you blush, are not

The flower the poets mean.

So sung Halleck, twenty years ago and upwards, not to the *Kalmia*, but to quite another sort of subject. If you want to see the *Kalmia* in all its magnificence, go to the mountains and hills of Pennsylvania, and particularly to the valley of Wyoming, "on Susquehanna's side," which Campbell has filled with such delightful images—the sweetest valley in all the world! From base to pinnacle, in the month of June, they jut out among the crags, and over the prominences, in one universal blush of rosy grandeur. Did you ever, Mr. DOWNING, travel along the valley, up or down the banks of the Susquehanna? If not, you have yet to see the most beautiful, picturesque and varied river in America, in all

its features and scenery, from its source in the limpid Otsego, away down to the turbid and briny Chesapeake. What beautiful meadows; what warm and sunny slopes; what picturesque hills, and magnificent mountains, does it sweep, in its course of swift, and still, and rippling, and glassy waters! "Thanks be to God for mountains!" eloquently exclaims WILLIAM HOWITT, in his most charming "Book of the Seasons." Aye, and thanks, too, for the lofty trees which clothe their sides and crown their tops, and the broad rivers which sweep their base, that WILLIAM HOWITT never saw as we have them here in America. But I must stop; I am a great way off my text, and will come down from my stilts, and leave this "prose run mad" for another time.

Editorial Note to "the Critic Criticised."

—"JEFFREYS must allow us to show him that he entirely misunderstands Mr. DAVIS' design." Certainly; I *have* mistaken the "design" of Mr. DAVIS. In my simplicity I did suppose a house should be the main, or principal structure, and that a porch and its gable should be an *appendage*. But I find that I am so verdant as not to understand the *improved* architecture of the times. From Mr. DAVIS' explanation I find that the "design" is "a porch and gable," with a house, *by way of appendage*! Very well; I'll try not to make another mistake of the kind.

Now, as we sometimes see houses *without* a porch and gable, which have answered a very valuable purpose, how would it do to build a porch and gable without the appendage of a house, and see how that would answer? But, without joking, I am yet so much of a novice that I can't help thinking the house itself *should* be the chief structure, and all the appendages subordinate to it. I'll drop the subject. (You

have lost the points of the compass in this house. Taking it from front to the rear gable, is like taking a bird from beak to the tail—that we think would include the main body of the bird. Ed.]

Pomological Notes from the West.—I hope our western fruit-growers will persevere in their good work of observation, until they ascertain, beyond a question, which varieties, whether imported or native, succeed best with them; and only by such experience will they obtain the proper fruits for their purpose. The remarks of Mr. PHÆNIX are a valuable record, and should be well considered by all pomologists west of the "Great Lakes."

How to treat Peach Trees.—Like all else that our friend "Digger" has to say, this is most timely, and exact to the point. This peach worm is the greatest pest we encounter in the production of that delicious fruit. A few more such articles as these, and they would comprise a perfect handbook for the practical gardener and pomologist.

Review of the late N. A. Pomological Convention.—What a mass of information have these less than half a dozen fruit con-

ventions brought to light within the three past years! and let them continue for two or three years more, he that grows poor fruit thereafter can only blame himself for it. I hope that some clever man will by-and-by condense the reports of these meetings into compact form, and give it to the public, in shape of a book. It would be one of the most valuable works of reference on the subject extant.

A Budget of Queries.—Your correspondent asks why I prefer wire fences to hedges? I supposed I gave my reasons sufficiently at the time. But I will further add, that in their growth and annual clippings, care, replacing, &c., they are the most *expensive* and troublesome fence you can have in the country. The climate—our frosts, and heats, and drouths—are against them. If you wish to see wire fence, go to E. J. WOOLSEY's place at Astoria, Long Island, and there you will see fence that will turn any thing, from a Cosset sheep to a Durham bull, and built at less expense, to say nothing of time, than the cheapest *efficient* hedge that can be produced—and last almost forever, besides.

JEFFREYS.

SUMMER CLIMBING PLANTS.

BY AN AMATEUR, NEW-YORK.

It is needless for me to expatiate on the beauty of climbing plants. Every one knows the charm of a wreath or a festoon; and it is because climbing plants form the finest natural wreaths and festoons, of mingled verdure and flowers, that they are so universally admired. Besides, they render unsightly objects attractive, by concealing them—wholly or partially; and still more, they give a rural and picturesque character

to all cottages and dwellings in the country, and especially to those which have little else about their exteriors to make them attractive.

Without entering at large into the subject of vines and climbing plants, I will ask but a few moments from your readers, while I speak of a few *summer climbers*; for it is now too late to plant any other vines except annuals. By *summer climbers*, I mean ten-

der or half-hardy vines, which may be obtained in pots, and which, when turned out in the open border, in good rich soil, by the side of the veranda, the latticed porch, or the trellis in the flower garden, will soon clamber to the top of such supports, and look gay and fresh all summer. Late in the autumn they may either be left to their



Fig. 119.—*Climbing Cobea*.

fate—a supply for the next season having been provided for at mid-summer, by making cuttings of some of their young shoots—or some particular sorts, as Passion flowers, may be taken up and kept in the greenhouse during the winter, to be turned out again in the spring.

I. The CLIMBING COBEA, (*Cobea scandens*.)

—The most luxuriant and rapid growing of all summer climbers. A single small plant—such as may be had in a pint pot at any of the principal florists on the first of June—may be planted out in a good soil, and will cover the side of a house, wall or trellis, 20 or 30 feet square, by November, growing and blooming till the black frosts overtake it. The *Cobea* is not a new plant, having been discovered in Mexico by a Spanish botanist, CAVANILLES, in 1789, and named by him after his friend, COBO. The flower is large, (nearly three times the size of the annexed figure,) and has the curious habit of coming out quite green, and changing colour gradually till it is a fine dark purple. As the plants bloom abundantly in a sunny exposure, it is quite showy for a long time. Having little tendrils at the ends of all the shoots and side branches, it will catch hold of a *rough* wall or trellis, and support itself without tying. Altogether, the *Cobea* is one of the most useful of summer climbers,—especially to those who wish something to “cover up fast,” and produce an immediate effect. Only give it *rich* soil, and it will go on at an astonishing rate. It ripens seeds about Philadelphia; but here, is usually propagated by cuttings.

II. The MAURANDIAS, (*Maurandya Barclayana*.) The prettiest of climbers are the Maurandias; their foliage is so neat, and their flowers so beautiful in form and colour. They are borne, too, in the greatest profusion; so that every day during the whole summer the plant is in bloom. The habit of growth is also elegant,—clambering over the slender trellis to the height of six to ten feet. The oldest and best known sort is the purple flowering Maurandia, (*M. Barclayana*.) But we have now two other beautiful varieties, viz., the WHITE MAURANDIA, (*M. B. alba*), and the ROSE-

COLOURED MAURANDIA, (*M. B. rosea*.) When the three are planted side by side, one heightens the effect of the other. The Maurandias are propagated like the Cobeas, by seeds or cuttings; usually, a few cuttings are struck in August for the next year's stock,—the old plants being allowed



Fig. 120.—*Tropaeolum Lobbianum*.

to die with the severe frosts of autumn, though they will hold out uninjured to the very last. This genus, also—Mexican—was named in honor of Dr. MAURANDIA, professor of botany at Carthage.

III. LOPHOSPERMUMS—*cousins* of the Maurandias, and much resembling them, and differing mainly in having larger and rougher leaves and larger flowers. The latter are mostly pink, or purplish. *L. scandens* is the most common, and *L. spectabile* the prettiest. The flowers—not unlike foxglove—scattered here and there, singly, among the leaves, are quite ornamental, and are produced, like the Maurandias, for a long time.

IV. The BUENOS AYRES VINE, (*Physianthus albens*.)—White flowering, climbing plants are scarce; and this is one of the prettiest and most useful of summer climbers. It comes from Buenos Ayres, and was

kept for some time in the green-house; but now, that it is found that it does so much better as a summer climber, turned out at the foot of a trellis, or the column of a piazza, it will become far more popular than before. A specimen grew in my garden up a pillar 20 feet high last season, and bloomed most profusely for two or three months. It likes a *deep*, rich soil, and a sunny exposure. The foliage is dark green, (but whitish on the under surface,) and ornamental; and the flowers, pure white, are borne in clusters at every joint. The juice of the plant is milky, like that of all the Asclepias family, to which it belongs. It grows freely from seeds or cuttings, and must be treated like the other summer climbers to keep a supply for the next season.

V. The CANARY BIRD FLOWER, (*Tropaeolum peregrinum*.)—An exceedingly pretty vine—an annual—that may be grown from seeds, planted as late as the first of June. The flowers, of a pretty straw colour, when half expanded, much resemble little birds. The plant is pretty and delicate in habit; and one would scarcely believe, at first sight, that it is a species of Nasturtium.

There is a new Nasturtium—*Tropaeolum Lobbianum*—named after Mr. LOBB, who collected it in Columbia, which is a very gay and beautiful summer climber. To bloom well in the open border, the roots of a previous year's growth from seed should be turned out in the border early in this month. The blossoms are bright orange-scarlet, and produce a very gay effect.

VI. IPOMEA LEARII.—This large and exquisite, deep blue, climbing convolvulus, is a perennial; and small plants in pots, fit for turning out now, are to be had of the florists. It leaves all the morning glories as far behind it in beauty as a La Reine rose does a common briar. Rapid growth

and a fine succession of flowers are among its other recommendations. It will climb 30 feet or more in a summer.

VII. DOUBLE ROSE CONVULVULUS, (*Calystegia pubescens*.)—A novel thing in its way, just introduced from China; for it is a double flowering convolvulus—only the corolla is not arranged as you might suppose, cup within cup, but with many irre-



Fig. 121.—Double Rose Convolvulus.

gular petals, like a rose. Their colour is a pale pink, very delicate and pretty; and they continue to bloom for some time in July and August. This plant likes a deep, rich soil, and *not* a very warm exposure. Being a perennial from China, it is likely to prove hardy in this climate. As yet, it is rather rare, (though I see it advertised by the dozen, in the April number, by WARSON, of Plymouth,) though it may doubtless



Fig. 122.—*Passiflora Kermesina*.

be had of THORBURN and others. [The *Calystegia* is an acquisition, and we are glad to find that a plant in our garden has withstood the past winter. ED.]

VIII. THE CRIMSON PASSION FLOWER, (*Passiflora Kermesina*.)—I close my list of summer climbers with this—a greenhouse plant, which perhaps surpasses them all. It is certainly the most profuse flowering, graceful, and showy of all passion-flowers; and passion-flowers are perhaps the most interesting of climbers. I succeed in getting a fine bloom of this passion-flower by shifting a strong plant into a good sized pot with rich compost, and plunging the pot up to the rim in the open border, at the foot of a trellis about the beginning of June. Here it will take care of itself, and grow freely,—reaching the height of some ten or twelve feet by autumn; and during the months of August and September it gives me a great quantity of flowers. The latter are not so large as some other passion-flowers, but are of a rich purplish

crimson, relieved with white rays, and very graceful and showy,—hanging in festoons on the plant. Just before the frost comes, I reduce the top a little, take up the pot,

and carry all into the green-house, where it will flower a month longer.

Yours, AN AMATEUR.

New-York, May 18, 1850.

TAN-BANK FOR MULCHING GRAPEVINES.

BY H. W. S. CLEVELAND, BURLINGTON, N. J.

A. J. DOWNING, Esq.—*Dear Sir*: I am much pleased to find that my experience in regard to the use of tan-bark on grapevines is corroborated by that of Mr. FERRIS, as given by him in the *Horticulturist* for May. My present object, however, is to offer a few remarks on a subject for which his letter furnishes me with a text. He says he had thought of giving his experience before; but “concluded that old gardeners would laugh at me for bringing coals to Newcastle.”

I have no doubt that many a person is prevented from giving items of his experience to the public by the same feeling; which is, indeed, a natural one, but in my opinion one which should be overcome. If the object of the *Horticulturist* were to instruct only “old gardeners,” it would be presumptuous in any but experienced and scientific men to speak. But I regard the readers of the *Horticulturist* as an assembly of friends, who meet together once a month for mutual instruction and entertainment. Among them are a large portion who are no farther along than myself; and I consider it a sort of duty in each to impart whatever information will be serviceable to others.

The common feeling, however, is that such and such a matter of one’s own experience is too trifling to be made public; whereas, in truth, such practical instances

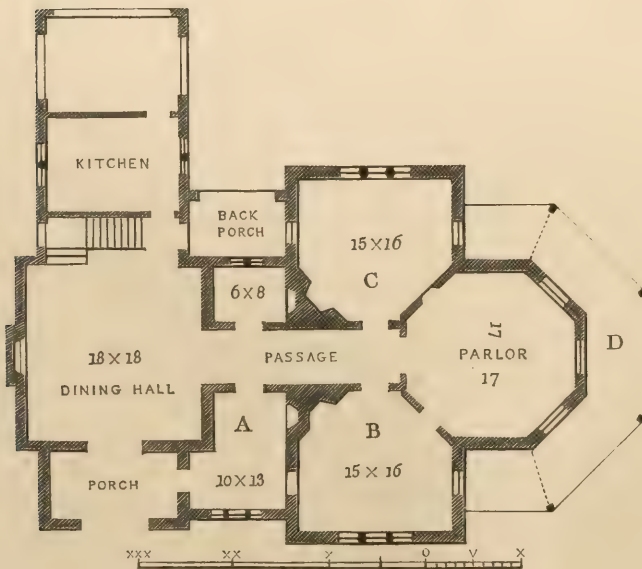
of the application of principles are often of great value, and *contain precisely the kind of information which one cannot get from scientific works.*

Will you pardon me for alluding again to my own communication, for the sake of illustration? When I first thought of applying tan to the border of my vinery, (intending it only for a mulching,) I inquired of several of my neighbors, some of whom were “old gardeners,” whether there was any danger of injury to the vines,—the tan being, as I said, fresh from the yard. Not one had ever seen it used in a fresh state; and almost all thought it dangerous to apply it without composting it for a year at least. A single season’s experience contradicted all their theories; and having occasion to write you, I thought the fact thus established worth mentioning for the use of others. It would have saved me much doubt and anxiety if I could have known it six months before.

So much for that. Now one word on a different subject. Considering the writers for the *Horticulturist* in the light of speakers before an audience, and perceiving in the May number a notice of “Jeffreys,” which sounds very much like a hiss from one side of the house, I wish to say that there is a knot of us here who are ready to come down in opposition to it with feet, hands and umbrellas. Without having the



GOTHIC COUNTRY HOUSE.



PRINCIPAL FLOOR.

slightest suspicion who "Jeffreys" is, so long as he talks as well as he has done heretofore, we are ready to cry "hear."

Yours truly, H. W. S. CLEVELAND.
Oatlands, May 18th, 1850.

REMARKS.—We cannot let the opportunity, afforded by Mr. CLEVELAND's excellent hint, go by without adding a word or two, corroborating, editorially, his opinion respecting the reluctance existing in a large class of our readers about giving the results of their experience—and results, too, very

important to them—but which they imagine too trifling, or suppose everybody knows them already.

It is precisely this kind of information that our readers most want; and we hope those who have it, in any shape, will, as Mr. C. has well said, feel that it is a *duty* to make it public. A practice the most familiar and successful in one part of the country, is often quite unknown in another; and its publication may not only assist beginners, but lead to other and better modes, founded upon it. Ed.

DESIGN FOR A GOTHIC COUNTRY HOUSE.

BY AN AMATEUR.

THIS design (see FRONTISPIECE,) is the production of an amateur, and has been placed in our hands for publication.

It is an attempt to produce a good effect in a rather rude and plain Gothic style, with but moderate cost, and without any elaborate ornament. The walls are to be built of common quarry stone, and the whole is to be finished in a simple, and rather rustic manner.

The plan of the principal floor, offers a rather unusual arrangement. Entering the porch, we may either go into the office or ante-room, A, or the dining-hall,—a kind of hall and dining-room combined. Behind this dining-hall are the kitchen and its conveniences. From it, a passage extends to the right, affording communication with the other apartments. B, is the library; C, a bed-room. At the end of the passage is an octagon par-

lor; and outside of this a veranda, D, extending round five sides of the room. This veranda is entered by windows reaching to the floor.

The plan of the second story, (fig. 123,)

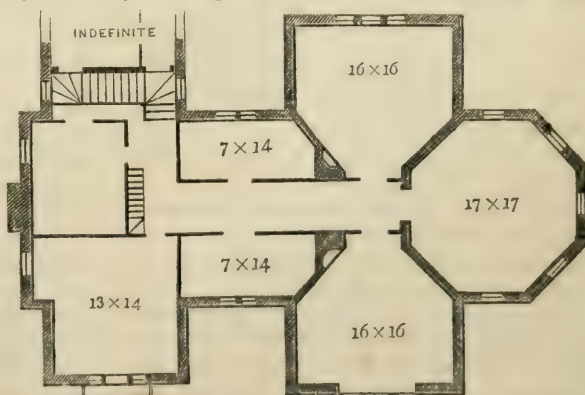


Fig 123.—Chamber Floor.

shows five good sized bed-rooms, and two of smaller dimensions.

Of course, a house in this style could only be erected to advantage on a large landed property, and where stone is abundant as a building material.

WHITEWASHING—THE NEW REMEDY FOR THE CURCULIO.

BY L. YOUNG OF KY., AND M. H. SIMPSON OF MASS.

WE hasten to lay the following correspondence before our readers, trusting that it may be in time, in many parts of the country, to save the smooth-skinned fruits.

It will be seen that two cultivators, in different parts of the country, vouch for the efficacy of lime in preventing the puncture of the insect which so largely destroys the plum, in many parts of the Union. These communications have been made public by the Massachusetts Horticultural Society, in the Boston Transcript, and we desire to give them a larger circulation in our columns.

The plan strikes us favorably—especially syringing or showering the young fruit with whitewash. But we suggest that the whitewash should be rather thin, and a day old, or we fear it might prove more disastrous to the crop than the “little Turk” himself.

We suppose Mr. YOUNG, of Louisville, Ky., one of the most zealous of western horticulturists, to be the originator of this use of lime. ED.

Springdale, near Louisville, Ky. July, 1849.

SAMUEL WALKER, *Pres. Mass. Hort. Society*—Dear Sir: In the course of a conversation held with you in Boston, during the autumn of last year, I learned that the curculio was exceedingly troublesome to the growers of the smooth-skinned fruits in your vicinage, and that the Massachusetts Horticultural Society was anxious to elicit any information tending to inspire a hope that it is in the power of art or science to apply a remedy capable of averting so great a public calamity as that which a fruit-relishing community sustains by the repeated yearly losses of its apricots, plums and other smooth-skinned fruits. On that occasion, I hinted to you the result of an experiment

with lime, tried upon the plum crop of 1848, and signified a determination at the same time to repeat the experiment before expressing an opinion as to the efficacy of lime, used as a protection to glabrous fruits, which are usually preyed upon by the curculio. Having then promised to communicate the result, I now proceed to redeem my pledge.

The severe frost of the 16th of April last destroyed almost entirely the fruit crop of the West, in all locations where the fruit trees had bloomed as early as the first of April or sooner. This occurrence narrowed the limits of the field of experiment for the current year, until its whole area is of very inconsiderable extent—a few individual fruits, only, outliving the storm of the 15th and 16th of April.

I have thought, however, on the other hand, that a shield capable of protecting and saving harmless throughout the whole season of danger, a few individual fruits, enfeebled by the severity of the April freeze, and surrounded by a whole host of enemies, more than equal to the destruction of the whole crop, had it survived the April disaster, could scarcely have won for itself higher claims to our confidence, by protecting a full crop under ordinary circumstances. The experiment of the current year, therefore, has tended to confirm my belief in the proposition that common carbonate of lime, (which is a very cheap and accessible article, of easy application,) applied before smooth-skinned or short-napped fruits have received the sting of the curculio, and continued until the tender stages of their growth have passed away—say four weeks—is a more efficacious remedy against the attack of the curculio than any nostrum now in general use, and considering its cheapness and applicability, is deserving of further trial.

That others might be enabled to judge of the soundness of those conclusions at which I have arrived in this communication, a detail of my experiments is ap-

pended; and as that of 1849 was conducted carefully with a view to throw light upon two not unimportant questions connected with this subject, viz: 1st, When should the treatment commence?—2d, How long should it be continued? I have thought it most instructive to copy what is relevant from my Diary.

With feelings of the sincerest good will toward yourself and that distinguished body of cultivators and amateurs over whom you have the honor to preside, I remain your obedient servant,
L. YOUNG.

Details of Experiments with Lime in the Culture of Smooth-coated Fruits, during the years 1848 and 1849:

I have cultivated the plum since 1828, and in 20 years had two perfect crops; one, a first crop after making a stone pavement around some trees; for success in the other instance I never could account, unless no crop of the kind had ever preceded it in that spot to invite the curculio thither. Certain it is the same tree failed ever after. In the spring of 1848, a very abundant crop of handsome young fruits had passed the season of danger from frosts, and I determined to make several different efforts to realize a prospect so promising. Having the authority of that excellent periodical, the *Horticulturist*, for fresh stable manure, I treated the best of the trees and nearly my whole collection in that way—the manure being re-applied as often as it ceased to emit the offensive odor. One tree of Cooper's large, was fixed upon for the experiment with lime, and fearing a free use of it might hazard the life of the tree as well as the fruit, I made choice of one partially blown down by the winds, deeming it the lesser sacrifice if the experiment proved fatal. After the treatment with both lime and manure had been continued a few weeks, the efficacy of lime seemed so decidedly superior to that of manure, that I introduced lime into my orchard of Nectarines, which had now generally been pierced. Result: In a short time the Nectarines dropped, except the Elruges, which were never disturbed, and although no further attention was given, they ripened.

From one-fourth to one-third the crop of Apricots and Plums, treated with manure, arrived at perfection, except two trees of

Cooper's large. A like proportion of these, say one-third—remained sound until they began to ripen. At this stage they commenced rotting, and upon both trees the aggregate that ripened without a blemish, scarcely equalled half a dozen.

The inclined tree of Cooper's large, received perhaps half a dozen dressings of powdered lime, at intervals. But during the season I never saw a punctured fruit—never saw gum upon any of its fruits or leaves; it retained its leaves well, though many were coated with lime, and about the 5th of August it furnished specimens of ripe fruit for the tables of the Kentucky Horticultural Society. This same tree retained its fruits and for five successive meetings, furnished weekly contributions. To give some conception of the quantity and quality of the crop, it may be stated that they sold readily at 40 to 55 cents per dozen, and at such prices a tree whose trunk was not larger than a man's arm, yielded fifteen dollars, over and above what were given to visitors as specimens, and what were eaten by the family.

1849. May 4. Yesterday I first observed the sting of the curculio upon an Illinois Wild Plum, and now resolved upon treating Wild Plums with ground plaster, Drap d'Or and Prince's Gage Plums with lime, as a preventive against the attack of the curculio; and desirous thoroughly to test the efficacy of lime, resolved to whitewash the few fruits which survived the frost, so that the curculio cannot possibly inflict his wound upon parts of the fruit which might accidentally be left uncovered by lime, when applied in the ordinary way—which is, to syringe the fruits, if not already wet by dew or a shower, and then with some elastic implement, as a broad spatula or tin shovel, throw small quantities of powdered lime upwards from beneath the fruits. This powder rises a dense cloud, and settles upon the fruit.

May 5. To-day re-applied plaster and lime, which had been removed by a shower.

May 15. During the last few days there have occurred several rains, which have rendered necessary the re-application of plaster to the Illinois Plums, and lime to the others. One Illinois fruit pierced since first treated with plaster.

May 25. Illinois Plum pierced on the 15th inst. has now fallen off. Found now three different Elruge Nectarine trees with a single fruit on each—all pierced by the curculio. Whitewashed them with lime.

June 3. Absent at Lexington five days. One rain while away. Now renewed application of lime and plaster. Limed fruits looking well, except two, which have received an injury sufficient to paralyze one cheek; the affected cheeks are rough, and emit gum.

June 12. Prince Gage and Drap d'Or Plums begin to swell and assume a rough, uneven exterior. No curculio; no glue, but on injured fruits.

June 19. No lime since June 3d. Plastered fruits all fallen, being first pierced.

June 21. Limed plums have a good appearance. No sting of the curculio as yet; apparently out of danger; no lime since June 3d.

June 30. The first of the limed fruits, a Prince's Gage Plum, paralyzed on one cheek, ripened about a week since. Every fruit whitewashed has reached maturity, without any disposition to rot in ripening—the unblemished ones attaining good size.

N. B. The three Elruge Nectarines whitewashed on the 25th of May, after they were pierced by the curculio, fell between the 5th and 10th June, the larva having eaten its way into the embryo caryledons.

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Saxonville, April 27th, 1850.

-To the Fruit Committee of the Massachusetts Horticultural Society—Gentlemen: My attention has been called to examine the insects which are destructive to fruits and ascertain their habits, in consequence of being a sufferer for a number of years; as the information may be of use, I herewith submit the result of my experiments and observations. There are only two insects which have caused me any trouble; the others are all easily destroyed; but the two to which I refer, viz., the Curculio and Codling Moth, have destroyed, the past year, seven-eighths of my apples, cherries, plums and peaches, and have disfigured the pears by their punctures. The curculio commenced puncturing the fruit about the 6th of June, and deposited its eggs in fully three-fourths of the apples, causing

them to drop when very small, and to an equal extent the cherry and peach. The plums would have been all destroyed, but were saved by shaking the trees, the insect falling upon a cotton cloth extended over a frame which I had placed under the tree, and also by placing a frame over the tree and extending worsted netting over it, which was sufficiently open to admit air and light. The labor and expense of these methods are considerable, and I hope a better plan may be found; one of which I am now experimenting upon, with some prospect of success. I showered the trees before the bud broke, with whitewash, with my hand engine, covering the branches *entirely*; the time required for a moderate sized tree was only five minutes, and the expense of lime hardly worth estimating. If this does not answer the purpose, I shall syringe the fruit when little larger than a common white bean. My experiments have convinced me that this latter method is a *sure preventive*. I found four of the larvæ in one apple, nearly ready to go into the ground, where they go through their chrysalis state, and remain until the following season in a torpid state. I produced the perfect insect from the larvæ which was found in the apple, peach and cherry, in about four weeks. The larvæ of the curculio is the cherry and peach worm, and also the small apple worm. They are the cause of the cherry and peach rot by their late punctures.

Respecting the habits of this insect, I notice they came on to the fruit from the first to the tenth of June, and continue puncturing the fruit until the twentieth of July. I have seen them as late as the first of September, but have not discovered fresh punctures later than the twentieth of July, and am inclined to believe those which are seen later, are of the new crop, which have been disturbed accidentally in the earth. I ascertained the increase by placing a male and female under a glass vessel, and giving them one plum a day for thirty-six days; they deposited, upon an average, about eight eggs per day; they ceased depositing their eggs about the same time that the punctures ceased upon the fruit on the trees. They go through their chrysalis state in about four weeks after going into the ground, and remain in a torpid state

through the season, unless the earth is disturbed. I produced ten of the perfect insects, which are little black beetles, from the larvæ, and fed them until the 1st January, with apple. The larvæ which were in the fruit, were placed upon the surface of earth in a glass vessel, and after eating the apple for three weeks, they left the fruit and bored into the earth to the depth of three or four inches, and then formed a little home, where they cast their skin, and in about four weeks the perfect beetle was formed. They lay dormant in this state until I disturbed them; some I took from the earth the first of August, and others on the first of October.

The mechanical performance of this little beetle should not pass without notice. In making her nest and laying her eggs, in the fruit, she exhibits an instinct that is truly wonderful. With her snout she punctures the fruit, in the shape of a semi-circle, to the depth of one-tenth of an inch, upon an angle of about forty-five degrees, and then makes a horizontal puncture directly under the skin, to the extent of one-tenth of an inch; she then turns round and deposits her egg at the entrance of the horizontal puncture; after which, she again turns round, and, with her proboscis, pushes home the egg to the bottom of the last puncture; she then places her proboscis into the first puncture, and presses the flesh of the plum against the skin, and holds it in this position about ten minutes, until the flesh and skin are knit together, for the purpose, as I suppose, of preventing the egg from falling out, and also to protect it from a minute spider. The semi-circular cut is made to provide for contraction, as, if made straight, the skin would split, and the egg roll out.

The curculio flies a great distance, and their numbers are immense where there are plenty of fruit trees. It is evident, unless some means are taken to diminish them, that they will eventually take all the fruit. I know of no article that will scent them off. I placed a bottle of spirits of tar directly under three plums, and in a few days found the fatal punctures upon them. The egg hatches in from five to ten days, and fruit may be saved by taking out the egg. But the application of whitewash,

by syringing the fruit, I consider the most practicable, unless the experiment I am now trying answers the purpose, of syringing the limbs before the buds break. To make the wash stick to the fruit or tree, I put in a little glue.

The other insect to which I allude is the Codling Moth. This little moth deposits her egg in the eye of the apple. They commenced this year about the 1st of June, and were so destructive on my trees as to take about all the curculio spared, and many of the Bartlett and Passe Colmar Pears.

They are on all the season, or until the middle of September; there are two or three crops of them. I produced them from the egg in about five weeks; they were two weeks eating before they were ready to go into the chrysalis state, and three weeks before the perfect moth appeared; they are a small grey moth, with a distinct mark upon the hind part of the wings, of a brown color, edged with copper; they do not extend their wings more than seven-eighths of an inch; they were very lively at night and entirely at rest in the day-time, from which I infer that they fly only at night. I have never been able to find one upon the trees. After the eggs are hatched the worms eat to the centre of the apple and out at the side, and cause the worm-falls or *Moth-falls*. I saved a number of apples by placing a thin plate of bees-wax over the eye.

But the plan for practicable purposes, is to syringe the fruit with whitewash; this will fill the eye and thus prevent the moth from laying her egg. I am happy to state that I discovered a trap for the larvæ of this insect, by which an orchard can be cleared of them with but little labor. Noticing two or three of the larvæ creeping upon a piece of *cotton cloth* which was thrown into the crotch of an apple tree, my curiosity led to further examination, and to my surprise and pleasure, I found thirty of the larvæ in their silken homes, going through their chrysalis state; they knit the folds of cloth together, with silken ties, and there quietly change from the loathed worm to the perfect insect, which is, perhaps, under a microscope, as beautiful as any production of the insect tribe. I again placed

the cotton cloth in the crotch of the tree, and examined it in three weeks, and found another encampment of them in the same state, and concluded that they were quite in my power, with very little labor. The cloth should be placed in the tree about the 25th of June, and examined every three weeks, as it requires about this time to go through their chrysalis state; in one or two seasons they must be destroyed. They find their silken webs very readily attach to the little fibres of cotton, and by laying the cotton cloth to the tree the wind will not disturb them.

There is still another insect which does some damage to the foliage and fruit of trees. The perfect insect is a long, slender, dark fly, with long feelers, and two

steerers behind; they are on the trees as early as the 15th of March, mating; they lay their eggs in the young bud, as soon as it opens; the egg hatches, and the larvæ commences eating the young leaves and curling them up, in which he makes his home. They are destroyed by applying the whitewash to the limb of the tree; and by covering the limb in this way, a very destructive little insect, the eggs of which are contained in little muscle shells on the apple and pear trees, will be destroyed. I will communicate the effect of syringing the tree with the wash before the buds break in July, when the whole effect of the experiment will be known.

Yours respectfully,
M. H. SIMPSON.

REVIEWS.

PROCEEDINGS OF THE SECOND CONGRESS OF FRUIT GROWERS, in the city of New-York, 1849.

THIS long-delayed report of the Pomological Congress of last October, is at length issued, and lies before us, in the form of a thick pamphlet—almost a book—of 109 pages. It is well printed, and notwithstanding the long time occupied in presenting it, is still interesting to those occupied with the culture or study of fruits.*

Before saying any thing as to the report itself, we must be allowed to say a word as to the publication of the future Reports of this Congress. The delay in printing this and the previous report, not to mince matters, arises simply from the fact that the Congress trusted to the American Institute to publish it, and of course lost, in some measure, the control of its early issue thereby. Now if these Reports are worth printing at all, they should be printed within thirty days of the close of the session, and if there are not ways and means

enough, (and we know they are abundant,) for the next Congress to do this, by simply putting their hands in their pockets, why let us lay a tax upon the orchards. The apples and pears would "come down" if necessary to have the thing done speedily and without shuffling.

As most of our fruit-growing readers will have gone through this pamphlet before they receive this number, it is needless for us to notice its contents in detail. Every one interested in Pomology will admit that it is replete with interesting facts, opinions and discussions, and that it contains abundant proofs that the subject of fruit culture is receiving no small amount of attention in the United States at the present time.

There are two or three matters of general interest to our readers, which we will glance at in passing.

The *Zinfandel Grape*, a well known foreign variety, was stated by Mr. PARSONS, of Long Island, and Dr. MUNSON and Mr. GABRIEL, of New Haven, to be better adapted to culture in the open air, in Con-

* Those who have not already received their copies by mail, can obtain them at the office of the Horticulturist, in Albany, Boston, New York, and, we believe, Cincinnati.

necticut, than the Isabella. Dr. Munson has cultivated it for years, finds it not apt to mildew, and ripening more completely and regularly than the Isabella. Mr. PARSONS said it succeeded perfectly well in the open air. This grape is therefore worthy of trial in other parts of the country.

The merits of the *Red Antwerp Raspberry* (the large fruited sort) were stated by our neighbor, Mr. BARRATT, of Milton, on the Hudson—a village remarkable for its superb crops of this fruit. Mr. B. said the Red Antwerp, “as a market fruit, is better than any other variety, bearing carriage well, and not being exceeded by any in flavor. It sold in New-York for 22 cents a quart, and from three-quarters of an acre he had realized \$330, at an average of ten cents per basket. There was a cultivator in his neighborhood who sold \$1,500 worth from three acres, and that last year—a very unfavorable season—the crop lasting but three weeks instead of five.”

There was a singular discussion about the Early Virginia and Large Early Scarlet strawberries. Mr. HOVEY, of Boston, insisted they were identical, while Mr. BARRY, of N. Y., Mr. HANCOCK, of N. J., Mr. MCINTOSH, of Ohio, and the editor of this journal, not only considered them distinct, but rated the Large Early Scarlet a good-sized production, and an excellent sort, and the Early Virginia a small and inferior one. Mr. MCINTOSH thought the Early Virginia small and worthless, and had rooted out the variety in his collection, and replaced it with the Large Early Scarlet. Notwithstanding this, we believe the question of the identity of the two sorts is still entertained by Mr. HOVEY, and we trust specimens of the true Large Early Scarlet, (which we think is hardly known in Boston,) will be sent to the Mass. Hort. Society, to settle it.

Besides these proceedings of the Congress, this pamphlet contains 36 pages of reports from fruit committees in various states, which, though necessarily imperfect, from the unparalleled shortness of the fruit crop of last year, nevertheless contain many facts and suggestions of considerable value to the pomologist.

We trust the next session of the Congress, which is to be held at Cincinnati in September, will be far richer in all respects than either of the foregoing ones. Our friends at the west are making liberal preparations for the occasion, and we hope the chairmen of the various fruit committees, as well as amateur and professional fruit-growers, are all busy, accumulating stores of information, to lay before that assembly.

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II. THE FARMER'S GUIDE to Scientific and Practical Agriculture. By Henry Stephens. American edition; edited by John P. Norton. New-York: published by LEONARD SCOTT & Co.

THIL, as we understand it, is a modified and condensed re-print of “Stephens' Book of the Farm,” one of the most elaborate and carefully written of modern treatises on agriculture.

The work is published in Edinburgh, and re-printed here from stereotype plates sent over by the foreign publishers, at a very low price—\$5 for the whole work, or 25 cents a number. Two numbers are already issued, and the others will follow rapidly.

The American edition is edited by Prof. NORTON, of Yale College, a name honorably associated with the agricultural interests of the United States. We shall therefore expect copious notes, calculated to render the work more useful to home readers.

Mr. STEPHENS' Book of the Farm is a most valuable work to the agricultural student, and to such we can warmly recommend the present publication. For the

practical farmer it is far too elaborate and comprehensive—for the plain reason, that a man who works much, wants his reading put into hand-books or manuals, rather than elaborated into encyclopedias. But there are many to whom the *study* of agriculture,

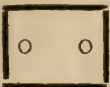
both as a science and a practical art, is presenting strong attractions now, in this country, and to such we can recommend this as presenting one of the best works for facilitating that study, so far as relates to modern British agriculture.

FOREIGN NOTICES.

MUSHROOM SPAWN.—Mushroom spawn may be made in various ways, and is easily known by its smell and its small fine thread-like and hoary appearance. The smell is just the same as that of the common mushroom. It is to be often met with in manure heaps, and in fields, particularly where hay-ricks have been made, and the old thatch and bottoms have been thrown up into a heap to decay for manure. In heaps of manure that have been thrown out of an old cow-shed, where both horses and cows, &c., run into for shelter; and in the sweepings from horse-mill walks, thrown up into a heap in some dry corner, and allowed to lie for three or four months undisturbed, plenty of mushroom spawn is pretty certain to be generated.

If horse droppings, mixed with sandy loam, equal parts, and partly dry, placed in boxes or large flower-pots, with a small bit of good spawn in it three inches below the surface, all jammed in as solid as it can be done, and put in any heated structure, the whole bulk will very soon be found to be the best of spawn, if kept dry for 5 or 6 weeks.

Spawn may also be made in this way. Take one-third horse-droppings, one-third cow and sheep dung, and one-third sandy loam; let these ingredients be well mixed together, adding as much water as will make the whole something like stiff mortar. Spread the whole mixture out on a level bottom or floor in an open shed, from two and a half to three inches thick, and let it remain in that state a few days to dry; then let it be cut out into pieces about the length of common bricks, but a little wider—say an inch wider; let these pieces be so placed as not to get broken, and when dry enough to be handled about with care, and being a little more than half dry, pierce each brick about half through in two places thus: that



is, make the holes about an inch and a half in diameter, and place a small piece of real spawn in each hole, over which a portion of that taken out should be placed, something like sealing it over. After this, let the bricks be so placed as to forward their drying off as quickly as possible; and when perfectly dry have ready a quantity of well prepared dry, husky,

fermenting materials, and place from about six to nine inches thick on the floor of some rather warm shed, and on this place all the pieces in a regular manner, with open spaces; that is, the pieces on one row crossing the openings in the row beneath, just as brickmakers arrange their bricks to dry, and keeping the inoculated side uppermost, to prevent the spawn falling out, bringing the whole up to a point, so that the stack may not fall about. Then cover the whole with the before mentioned kind of material, so as to give about from 50 to 55 degrees of heat, which will soon cause the spawn to run through the pieces. When this is observed to be the case, let the whole be stored away in some *dry, cold place* until required for use. These dry, light, hoary lumps will keep good for years in a dry place, but in a cold moist situation this spawn would soon perish; and if stored in a warm moist situation, the spawn will commence working or vegetating. *T. Weaver, Gardener to the Warden of Winchester College. Cottage Gardener.*

SPENT TANNER'S BARK A GOOD MANURE FOR STRAWBERRIES.—Perhaps the following experiment with strawberries in tan, which I saw made near Edinburgh, may prove useful. The soil was very light, and appeared unfit for their growth, yet finer fruit or of better flavor I have seldom seen. This was entirely owing to a covering of old tanner's bark, about an inch thick, being applied between the rows. The bark not only kept the ground moist and the fruit clean, but it is the material of all others in which this plant most delights. Many persons may have remarked how almost all plants, but particularly the strawberry, will root into the old tan of a bed in which they have been forced, and yet because they know new tan will kill weeds, they do not think it valuable as a manure. In the same garden were beds of strawberries which had not been covered, but after growing and flowering well, these bore no fruit worth gathering (a very common thing if the soil is too light;) others were almost burnt up, whilst those to which the tan had been applied were luxuriant; and the ground was covered with fine runners fit to plant out, though the fruit

was just in perfection—an uncommon circumstance near Edinburgh. *I. R. Pearson. Chitwell. Gard. Chronicle.*

ON DRYING SPECIMENS OF FLOWERS.—As the season for collecting plants is approaching, may I be permitted to give the particulars of the process I have adopted in drying specimens for the Hortus Siccus, especially the more delicate and succulent ones, for which I have found it peculiarly adapted, as it combines the greatest equality of pressure with despatch in drying. My method is as follows:—The apparatus required is very simple, consisting of a few canvass or linen bags, of such size that, when laid flat, they will rather more than cover a sheet of demy paper, a quantity of clean sand, an old saucepan, or other convenient vessel, to heat it in, and a few quires of blotting-paper. Having provided these, first put a sufficient quantity of sand in the saucepan, over the fire, and, while this is heating, take a quire of blotting-paper, on which arrange the plants, covering them with two or three sheets of blotting-paper. When the sand is sufficiently heated, and uniformly so (which may be promoted by stirring it with a stick,) pour into one of the bags enough to fill it to one-third. The mouth of the bag being closed, by tying or folding back, it is

then to be laid carefully over the plants arranged between the paper, and the sand contained in it to be spread out by the hand, and pressed with a board, so as to form a flat uniform surface. This process may be repeated, several layers of paper, plants, and sand-bags being laid on one another. If this is done, no extra weight will be required—the smallest and most delicate plants being placed in the uppermost layers; but if the subject be large and thick, a board and weight will be generally necessary. Unless they are very thick and succulent, in which case they may require a second application of hot sand, the plants will generally be found quite dry within twenty-four hours, and often much sooner. This is one advantage; as, by this rapid desiccation, the colour is preserved in the greatest perfection—i. e., if the temperature be well regulated. The second, and perhaps of more importance as regards the botanical value of the specimen, is, that the sand, by adapting itself to the inequalities of the object under pressure, prevents any crushing of the stems, receptacles, &c.; while the parts of the leaves in juxtaposition with a hard, thick stem, which, by the ordinary method, escape any pressure, and consequently shrivel up, are all equally flattened. *W. S. Coleman, in Pharmaceutical Journal.*

DOMESTIC NOTICES.

RAISING SEEDLING GRAPES.—Now is the time for those who wish to experiment with seedling grapes to commence their operations. Though something good may no doubt come from planting the seeds of Isabella and Catawba grapes at random, yet, as *chance* becomes *certainly*, when we call in the aid of *hybridizing*, no scientific cultivator will neglect the latter advantage. The first great desideratum is to get a *hardy* table grape, entirely free from pulp and of high flavor. For this purpose, we would suggest crossing the Isabella and the Black Hamburg, or the Catawba and the Chasselas—the native grape being made the *mother* of the new sort.

An improved wine grape is also greatly needed. Now as Miller's Burgundy is the great wine grape of Europe, we would suggest crossing that variety with the Norton's Seedling, or the Ohio, for a claret wine grape; and with the Catawba for a champagne wine grape.

Such of our readers as need a spur to their zeal in this matter, will remember that very large premiums have been offered by both Mr. LONGWORTH of Cincinnati, and the Mass. Hort. Society, for an American seedling grape superior to the Catawba. One tenth part of the attention to raising new seedlings of native grapes that has been be-

stowed of late years in England on the Dahlia, (with such wonderful results,) would give not one but dozens of hardy grapes, as delicious as the table grapes of Europe, and as hardy as our native vines. That nurseryman who shall be the first to get control of a good stock of such a variety, may as easily make \$5,000 by it as \$5.

Those not familiar with the modern practice of breeding fruits and plants, are referred to our *Fruits and Fruit Trees*, p. 9.

AGRICULTURAL SCHOOLS.—We are sorry to have to announce that the New York Legislature adjourned without passing the bill drawn up by the committee appointed by the Governor, for the Agricultural College. This was not from any opposition or want of interest in the subject, but simply because the bill was left sleeping to the last, and not "brought up." There was an abundance of good feeling for it in general, but especial champions seemed to be wanting, and as the farmers themselves do not understand the want of "lobbying" their servants, the members in their seats had too much else to attend to, to give it the necessary attention. We hope this will be remembered at the next election, and that every farmer who wishes to have his rights respected.

will vote for a member who is in earnest for agricultural education. Besides this, let every agricultural society in the state send a delegate to Albany next winter, to represent to the honorable gentlemen that there are a *few* of their constituents at home, who are *farmers*, and who mean to have that fact understood and appreciated, and we stake our reputation that there will be no lagging in the matter of appropriation for the education of the farmer's son.

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AGRICULTURAL BUREAU.—A bill has just been introduced into the U. S. Senate, to establish, permanently, an Agricultural Bureau at Washington—the chief of which is to be called the *Commissioner of Agriculture*, and to receive the same salary as the Commissioner of Patents. The bill states,

"That it shall be the duty of said Commissioner to collect agricultural statistics; to procure and distribute valuable seeds, cuttings, buds and tubers; to procure and put in operation a chemical laboratory, at a cost not exceeding two thousand dollars, and to cause all desirable analyses of minerals and mineral waters, and such as relate to composition and improvement of soils; the feeding of domestic animals; the preparation and preservation of provisions and breadstuffs; the manufacture of sugar, and such other manufactures as may be connected with agriculture, and arise immediately out of agricultural products; and to prepare and make annually a full report to Congress, containing an account of such experiments as may have been made, and such useful information as he may have obtained on all the subjects connected with the duties of his office."

The bill also provides for an agricultural chemist with a salary of \$2000, a chief clerk with a salary of \$1600, a recording clerk with a salary of \$1000, a messenger with a salary of \$750.

The bill is a good one, and that a commissioner so appointed, if a *competent* one, could do a vast deal for the agricultural interest, and thereby the interest of the country generally, is undeniable. We hope it will pass as it stands.

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ASPECT FOR APRICOTS.—Since writing the article on the apricot, in our last number, we have had further proof of the advantages of a northern aspect for this tender-skinned fruit.

In the garden of our neighbor, T. W. CHRYSTIE, Esq., we were shown half a dozen apricot trees of the finest sorts, which uniformly bear abundant crops of large and delicious fruit, without the least care, being treated like common standard peach trees. The secret of their uniform productiveness and excellence, Mr. C. informed us, was simply in the aspect. Trees of the same varieties had been planted on other sides of his residence, and in various open parts of the grounds, the soil being the same, but they had, without exception, all failed, sooner or later. Hence Mr. C. had been inevitably led to the same conclusion

which we have reached, viz: that the greatest fallacy in planting an apricot tree, is that of putting it in a southern exposure. The temperature in the middle states is always high enough to ripen the fruit in a northern aspect, while the tree is uniformly more healthy and less liable to injury by frosts or insects, than in any warmer position.

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TOBACCO WATER vs. INSECTS.—Every good gardener knows that to combat his worst enemies, the insect tribe, successfully, he must open the campaign early and briskly. An hour's active operations, when they first begin to marshal their forces, is worth a whole day's battle when they have mustered in full strength.

Tobacco water is his best ammunition, and if he has much fighting to do, he must immediately set about getting it ready. To make it in a state fit for using out of doors, he should have a barrel full—and the following is the way to make it: First go to the tobaccoists and buy shag tobacco or tobacco stalks—the latter worth only three cents a pound. A pound will make four gallons of tobacco water; if you wish to make half a barrel, you will require four pounds—or if a barrel, eight pounds. Put the stalks in the barrel, and pour the water over it—nearly boiling—at the rate as we have said, of four gallons to a pound of the tobacco. When it is cold, stir the whole thoroughly, and it is fit for use, or you may pour it off, and adding again one half the former quantity of hot water, make as much more.

Tobacco water, made in this way, will destroy almost any insect of the aphid or sting kind, without any injury to the plant. Some very delicate plants may require that it be diluted—and some will bear it made stronger—so that before undertaking the operation, largely, you should try its strength upon the insects and flowrets for 12 hours, to see if it answers the purpose, without injury to the foliage.

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INSECTS ON THE ROSE.—Numberless insects infest the rose of late years—the two worst being the rose slug, and a small aphid, both living and feeding on the under side of its leaves. The aphid appears first, and sucking part of the juices, causes the foliage to look mottled, sickly, and unhealthy; the slug comes next, and eats away the fleshy part of the leaf, till it looks, as Mrs. PARTINGTON says, like "a 'natotomy." Tobacco water will kill both these worms, if applied once or twice about sunset. As the insects are all on the under sides of the leaves, it may be puzzling at first to know how to get at them, but the difficulty is easily overcome by using one of Poolis' or Reid's syringes, made with a *crooked* or *goose neck*, so as to throw the shower in an oblique direction. They may be had at any of the principal seed stores.

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MASSACHUSETTS HORT. SOCIETY.—*Dear Sir:* I paid a visit to the first exhibition for the season,

of our "Horticultural," which came off on the 18th of May. The Hall looked light and cheerful in itself, having been newly painted and arranged—to say nothing of the effect produced by luscious fruits and bright flowers—nor must I fail to add, brighter eyes—for, as you are aware, the "Horticultural" is the most fashionable of Saturday lounges in Boston.

The show, though not large, was admirable—and I must send you a few memoranda.

In the first place, Mr. ALLEN, of Salem, (author of the treatise on the vine,) made a grand display of forced grapes; *seventeen* of the most beautiful and delicious varieties, on the 18th of May, proved that there are some authors who can *practice* as well as *preach*. Besides this, he contributed ripe and beautiful Hunt's Tawny Nectarines, May Duke Cherries, and several fine sorts of figs—all ripened under glass.

Mr. TUDOR, of Nahant, and Mr. GORDON, of Brighton, both exhibited Easter Beurré pears, well preserved and in good order.

Mr. CROCKER, (by Mr. NEEDHAM) exhibited a fine sample of Black Hamburg grapes.

There was a beautiful array of cut flowers—the principal contributors being Messrs. WALKER, J. A. KENRICK, A. BOWDITCH, J. NUGENT, and LEWIS DAVENPORT. In Mr. DAVENPORT's collection, I noticed fine specimens of the new Verbenas—Robinson's Defiance, and St. Margaret, as well as the Newington Beauty Cineraria.

Col. WILDER made quite a brilliant display of new and beautiful exotics—about 40 pots in all—and his *Ericas* were especially beautiful—a new yellow variety attracting great attention. There were four varieties of *E. ventricosa*. The finest new Azaleas and Pelargoniums were also shown in his collection.

This gentleman also exhibited superb specimens of "Downing's Colossal Rhubarb," which, as he stated to various members present, he considered superior to any other variety that he was acquainted with, after having tested all the best English sorts. I shall keep you advised of the *notabilia* of the future shows, and meanwhile am yours, *A Looker-on in Boston. May 21, 1850.*

CREAM HILL VINDICATED.—Mr. Editor: Although in replying to some criticisms on "Flowers for the Million," by your correspondent, under the name of Jeffreys, I may be exposed to the same dilemma as the member of the Vermont Legislature, when referring to the weak argument of his antagonist, remarked, that "it *wrenches* a body dreadfully to kick at nothing;" yet, wishing to correct error, wherever found, and defend the truth, whether ignorantly or designedly assailed, I would ask a small space in your valuable journal, for this purpose.

Jeffreys takes "Cream Hill for his text," as he says; to illustrate which, he makes a quotation, "which, some body has said and wrote it too—*who, 'tis no matter now—that 'man is an imita-*

tive animal,'" and further says, that "to any one conversant with American names of places, there can be no manner of doubt that we are of the genus *Imitatio*—thorough." He then slides upon "Mrs. Primrose, Cherry and Strawberry Hills," the "Amblesides and Sunnysides, Inglesides and all the other sides," tells a story of "Rosemount," and says that he has "known Hazle Woods which bore nothing but pine trees," &c. &c., "by which time the drift of his meaning," he says, "is quite apparent."

The plain English of all this, he would have us understand, is, that the place of residence of the author of "Flowers for the Million," is named Cream Hill, in imitation of the fashion, or resemblance to the practice of others, who have chosen what he is pleased to call "lack-a-dasical" names, to designate the places of their residences.

Now, never was any poor, bewildered wight, more mistaken than our friend Jeffreys. Neither a "thorough imitiveness," or because of "a fine dairy, redolent of aromatic grasses, of rich milk, and delicious butter," with "a dish of ripe strawberries, smothered in cream"—although the latter reasons may abound to the heart's content—constitute the true reason for the name in question. More than a century ago, the explorers of this then new portion of New England, as they surveyed its several hills, came upon one distinguished above its fellows, with marks of superior richness of soil and beauty of scenery. As they viewed its southern aspect, with its variegated forests, its pretty lake, and, away in the distance, as the eye encircled the wide horizon, embracing many other hills, they involuntarily exclaimed,— "This fair hill is the cream of the hills." From that day to this has Cream Hill had a name and a place. The earliest records of the town show the name as contained in the various land conveyances of that day. And from the very spot where these pioneers of civilization beheld the magnificent scenery which excited their admiration, is presented to the eye a range of nearly one hundred miles in extent, spread out, like some vast map, embracing hills and valleys, mountains and plains, woodlands and meadows, cornfields and orchards, with here the village spire, and there the clear waters of the lake, sparkling in the sunbeams and reflecting from its bosom the tall pines or oaks which stand on its borders. While the more immediate prospect is enlivened with here and there some pretty cottage or neat farm house, in the distance towers the long blue range of the Catskills, whose lofty heads seem pillowed among the clouds, and which, at sunset, are tinged with golden colors, and cast their giant shadows far eastward, till the deepening shades of evening conceal the wide-spread landscape from the view.

Whether there is "poetry" in all this or not, one thing is nearly certain, that should your honored self, Mr. Editor, (and none could receive a more cordial greeting,) or our friend Jeffreys, please to honor Cream Hill with a visit, your own senses

should testify to the "fine dairy, rich milk, and delicious butter;" or, if in season, "a dish of strawberries smothered in cream;" and as to the "hospitality," come and see. And when Cream Hill again is made a text for edification, the writer may be able to instruct from his own experience. *Veritas. Cream Hill, West Cornwall, Ct.*

.....
VERBENAS: EVERGREENS.—*Dear Sir:* With the request made in the last number of the Horticulturist, in relation to the success of my experiment in wintering Verbenas, I cheerfully comply. Although greatly disappointed in the result, (it having terminated fatally,) I am confident of its ultimate accomplishment. Up to the 1st of April, the plants, to all appearance, were perfectly healthy; after that period, they began to give signs of decay, and before the middle of the month, were quite dead. This sudden and rapid change from health to decay, I was greatly surprised at, and can only ascribe it to the sudden change of temperature which the plants were subjected to, in admitting the sun; had it been gradual, I am confident they would have lived, and now been in a vigorous condition. However, nothing daunted at this unexpected termination of my hopes, the experiment will be repeated next fall, and with what success, you shall know in due season.

Are the Cedar of Lebanon and Deodar Cedar too tender for this climate? [There is a Cedar of Lebanon in Westchester Co., N. Y., 50 feet high. The Deodar Cedar is even harder than the Cedar of Lebanon.—Ed.] I am greatly surprised that our people—our neighbors—those who have a taste for the beautiful in nature—who spend hundreds in the adornment of their grounds—in collecting together almost every variety of deciduous tree and shrub—should neglect one great feature in the complete whole—the introduction of not a few, but *many* evergreens. Nothing adds more to the beauty, to the cheerfulness, or to the effect, in a landscape, than a well-disposed group of these beautiful productions of nature. Every American who has visited the shores of the old world—England, for example—is struck with the varied beauty of her evergreens. But few are indigenous there; yet the gardens show every variety grown in the temperate zone, from the "time-honored Ivy" to the majestic Cedar of Lebanon; and every American who returns, inwardly regrets that some of those fine specimens of park scenery, without which no landscape is complete, are found wanting here. I am glad to see that there is a manifest spirit beginning to be evinced around us, by gentlemen of taste, in bringing into notice these long neglected and hidden beauties. I have the *Spirea prunifolia*, or double Japan spirea; does it bloom during the summer? and is it sufficiently hardy to stand our Berkshire winters? [It blooms in May, and is quite hardy. Ed.] Yours truly, *Theo. Clapp. Pittsfield, (Mass.) May 18, 1850.*

CAMPHOR vs. CURCULIO.—As the season for the ravages of the curculio approaches, I beg leave to trouble you with what, I hope, may prove a protective. I cannot promise you that it will certainly do so, for this I am not warranted in doing, and I have no disposition to exaggerate its value. Plan after plan has been tried, only to end in failure, till I should not wonder, if you should read this communication with a feeling approaching disgust. Still it is perfectly simple, attended with little trouble, and still less expense; and if it does no good, is incapable of doing mischief.

It is simply to suspend camphor, either in bags or open vessels, from one or more points of the trees you wish protected, about the time the ravages of the insect may be expected.

If you are a *practical naturalist*, you are aware that nothing is more offensive to insects than camphor. So that from reasoning on the subject you will readily allow the probable value of the plan. This much, however, I can assure you that it has seemed to succeed; but whether this success was a *post hoc* or a *propter hoc*, a fair trial only can determine. *A Subscriber. Pittsburgh, May 20, 1850.*

.....
HARDINESS OF PLANTS IN MASS.—*Dear Sir:* I find that that *Cryptomeria japonica*, *Araucaria imbricata*, *Cedrus deodora*, seedling Pines from California, Cedar of Lebanon, *Spirea prunifolia*, pl., *Forsythia viridissima*, *Weigela rosea*, and several hybrid *Rhododendrons*, have stood the winter perfectly, without protection, in my grounds at Dorchester, near Boston. Yours sincerely, *M. P. Wilder. Boston, May 20, 1850.*

.....
COAL ASHES FOR CHERRY TREES.—*Dear Sir:* I "took the hint" you gave last spring, and applied hard coal ashes very plentifully to the soil about my cherry trees, and am happy to say, with the best results. The trees have come into leaf this spring, and are showing a vigor of new growth, and darkness of verdure, which they have long been strangers to. My soil, I should add, is a strong loam, inclining to clay. Yours, *A. N. Delaware, May, 1850.*

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ERRATA.—We observe that our proof reader, (who is always 80 miles distant,) has somewhat neglected his business in the last number. In the plans of the octagon house, he has allowed the engraver to spell "vegetable" "*vegitable*," "drawers" "*draws*," and "Boudoir" "*Budoir*"!—which is rather incorrect.

On p. 520, (16th line from bottom,) for "make" read "made"; page 521, (24th line from bottom,) for "records" read "rewards"; page 528, (4th line from top,) for "old friend" read "valued friend"; same page, (10th line from bottom,) for "collector," read "subscription"; page 535, (22d line from top,) for "*pearl-blossom*" read "*peach-blossom*"; same page, (30th line,) for "we art doubtful" read "we are doubtful."

ANSWERS TO CORRESPONDENTS.

PRUNING ARBOR VITÆ.—*W. L. Vanderburgh*, (Fultonville, N. Y.) No tree will bear pruning or shearing better than this evergreen. We have cut off the tops of hundreds two or three feet each, without injury, and improving the growth for a hedge. You had better shorten the tops of your new planted lines, and cover the earth over the roots with straw, litter, shavings, or any other mulching, to keep the roots moist and cool.

SUMMER TRANSPLANTING.—*G. A. Brush*, (Detroit.) The trench referred to by Mr. PERKINS, (vol. 1, p. 171,) as three or four inches wide, may be made as much wider as you please—as that is not material—only the wider the trench the more water will be required to fill it.

STRAWBERRIES.—*J. H.*, (Albany.) The variety you have sent us the drawing and description of, appears to be the Grove-end Scarlet—a standard English variety. *E. R. J.*, (Philadelphia.) Elton is a delicious late strawberry—but wants ample cultivation—a deep, rich soil, and rather shady site—say the north side of a fence. It ripens a week after the strawberry season. You don't succeed with strawberries, because your soil is worn out. Trench it three feet deep, and *manure it heavily* with stable manure while trenching it, and you will get as fine crops as your neighbors. To obtain good crops of the Alpine in September, you must have damp soil, made rich and deep, and you must destroy all the blossoms that appear in the spring. You can then gather a fine crop of fruit in the autumn. If you have no straw to protect the fruit, use instead the short grass that you mow from your lawn.

VEGETABLES.—*A Vermont Subscriber.* Your season is not quite long enough for the okra or tomato, but you may succeed very well with both these vegetables by starting them early upon pieces of sods, turned upside down, a little soil put over them, and the seeds sown thereon—the whole protected by a simple frame, with any old sashes, if you have no hot-bed lights, in the same way as melons are started, (see page 480 of last vol.) By planting them in this way, and by transplanting them on the sods when all danger of frost is over, you can get a good crop and add a month—so far as these are concerned—to the length of your season.

HARDY FRUITS.—*D. H. Carley*, (Barrington, Ill.) We refer you, for lists of fruits that have been proved valuable for cultivation in the extreme northern states, to the proceedings of the Congress of Fruit-growers, (which we have sent you by mail.) See the reports of the committees for the states of Vermont, Maine, Iowa, and with lists of fruits order your trees from the east as early as possible in the autumn.

VERBENAS.—*A. C.*, (Richmond.) Your Verbenas failed from having been attacked by insects—the small gray ones you speak of at the roots.

Mix a little ashes with the soil of your beds, to prevent it. It should have been done when the beds were made in the spring. “Brill's striata” is a pretty American seedling, with flowers striped somewhat like Van Houtte's phlox.

KNOTS IN PLUM TREES.—*A.*, (Long Island.) Cut out the knots, down to the sound, healthy wood, and wash the wounds with weak copperas water. We have found this effectual.

VINERIES.—*J. Wilson*, (New York.) Never syringe the vines while they are in bloom; the most successful cultivators do not syringe any more after the blossoms open. The best time to plant a new vine-ry is in May, but it may be done with success as late as the middle of June. The vines, one or two years old in pots, may be had of any of the leading nurserymen. Rely on Black Hamburg, Chas-selas of Fontainebleau, White and Grizzly Frontignans and Muscat of Alexandria, for your principal crop. Other sorts may be added for variety. *W. Hazzard.* Your vines fail because your border is exhausted. Fortunately, there is an easy remedy for this, viz: watering it copiously with liquid manure. Prepare several hogsheds of it—an infusion of barn-yard manure is the best; and apply it plentifully, once every week, till August.

SUMMER GREEN-HOUSE.—You may render your green-house attractive and beautiful, instead of “an ugly thing in summer,” by filling it with Fuchsias, Achimenes, Gloxinias, and other exquisite flowers, introduced within a few years past. They should be allowed plenty of room, (about three times as much as winter plants,) and the glass partially shaded. Any of the leading growers will furnish you with a good collection of these summer blooming exotics—taking the most popular and showy sorts for a very moderate price—the selection left to them.

APPLES.—*H. R. Hart*, (Utica, N. Y.) The apples were received in good order, but their name is unknown to us. We advise you to send specimens to the next Pomological Congress. *W. W. C.*, (Worcester.) Don't give up your orchard. We have known trees as severely injured as yours by the borer, entirely restored. Take out all the insects immediately, or kill them by thrusting a wire into their holes, and coat the trunk and principal branches with a mixture of soft soap and tobacco water, immediately, to prevent a fresh deposit of eggs in the bark.

HARDY GRAPES.—*A Constant Reader*, (Trenton, N. J.) The Isabella vines, which have been planted two years, and “won't grow vigorously,” may soon be brought to behave themselves, if you will have the “suds” of the “weekly wash” poured at their roots. Try it and see.

WINTER CAULIFLOWERS.—*A. M.*, (Baltimore.) Sow seed of Walcheron cauliflowers, for winter flowering, immediately, and plant them out as soon as large enough. They need not show signs of flowering, when you take them up at the end

of autumn, as they will develop the heads in the cellar during the winter.

NECTARINES.—*W.*, (Rochester, N. Y.) Try the effect of plaster (gypsum) applied about the middle of June, as a top dressing, (turned under

two or three inches,) to prevent the fruit from falling off while *staining*.

ROSES.—*E. Buckingham*, (Zanesville, Ohio.) Consult "*Buist on the Rose*," the best work for your purpose.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society occurred on Tuesday evening, May 21, 1850. The president in the chair.

The exhibition was very interesting, and was numerously attended with gratified visitors. The object presenting the greatest attractions, was a table of fruits, rare for the season, from the president's (C. Cope,) green-houses; it contained a dish of Black Hamburg Grapes, four large bunches; and another of three, of White Sweet-water, fully ripe; a strawberry plant in full bearing; also, a dish of Elrue Nectarines, and others of delicious peaches, two varieties, possessing the greater interest, as being the first occasion that the two latter fruits were produced before the society in May.

Among the many choice plants in the various collections, might be noticed some of more than ordinary interest. In the collection shown by Peter Mackenzie, was a remarkably fine specimen of the *Azalea variegata*, displaying a perfect mass of the richest flowers; a gorgeous show of *Calceolarias*, consisting of twenty pots of eighteen varieties; three new *Fuchsias*, and choice *Verbenas*. On Robert Buist's table were many new plants—the *Russelia floribunda*, *Calystegia pubescens*, *Eschynanthus Bosceanus*, *Campanula grandis*, and a seedling *Cactus*, shown for the first time; and of twenty-one varieties of *Pelargonie*, sixteen were entirely new; eighteen herbaceous *Calceolarias*, and six of shrubby varieties. On that from James Dundas' green-houses, were fine specimens of *Stigmaphyllon ciliata*, *Justicia pulcherrima*, *Clerodendron splendens* and *pyramidalis*, and four choice *Fuchsias*. Among those from Caleb Cope's green-houses, were *Abelia rupestris*, *Begonia sanguinea*, *Cinerarias Beauty of Newington* and *Attila*—all new. In John Lambert's collection were a fine specimen of *Rhododendron*, *Pentas carnea*, *Calceolarie*, *Fuchsie*, *Gloxinie* and choice *Pelargonie*—choice varieties. In Miss Gratz's, *Fuchsia exoniensis*, *Parson*, *Dutchess of Sutherland*, *Petunize*, *Plumbago* sp., etc. From John Sherwood, six of the choicest *Roses*, *Cuphea platycentra*, *Fabiana imbricata*, *Verbene*, etc. By Wm. Hall, six select *Roses*. Jonathan Bass, Matthew Mills and Robert Scott, exhibited collections of choice *Tulips*. Robert Kilvington, a table of interesting indigenous plants. A number of designs of cut flowers and bouquets were, as usual, brought forward.

On the vegetable tables, among the fine specimens were observed a number of bunches of the largest *Asparagus* ever shown, and said to be of a new variety, and exhibited by Wm. Lutz, Moyamensing. On the president's table, were large *Cucumbers*, new *Potatoes*, *Tomatoes*, three varieties, and new *Peas*. On Anthony Felten's, *Cauliflowers*, *Cucumbers*, *Lettuce*, and other kinds. On Miss Gratz's, were *Sea-kale*, *Asparagus*, *Cauliflowers*, etc. In *Rhubarb*, there was spirited competition; William Hobson presented very large *Victoria* and seedling varieties; Thomas Hancock, twelve stalks, weighing fourteen pounds and ten ounces, (the expansion of the leaf being taken off;) the largest stock, one pound eight and a half ounces; Robert Buist, very fine and heavy; Samuel Cooper, very large; Anthony Felten and Patrick Gallagher, very good.

Reports of Committees.—The Committee on Plants and Flowers have awarded the following premiums, viz:

Camellia—for the best American seedling, exhibited during the season, to Peter Mackenzie. *Pelargonie*—for the best six named varieties in pots, and for the second best, to Robert Scott, foreman to Robert Buist. *Roses*—for the best perpetual, six named varieties, to Wm. Burnley, foreman to John Sherwood; for the second best, to William Hall. *Tulips*—for the best eight named varieties, to Jonathan Bass; for the second best, to Matthew Mills. *Pentas carnea*—for the best specimen, to Maurice Finn, gardener to John Lambert. *Hot-*

house plants—for the best grown, three named varieties, to James Bissett, gardener to James Dundas; for the second best, to Ben Daniels, gardener to C. Cope. *Green-house plants*—for the best grown, three named varieties, to Maurice Finn; for the second best, to James Bissett. *Plants in pots*—for the best and most interesting collection, to Maurice Finn; for the second best, to Robert Scott, foreman to Robert Buist; for the third best, to Patrick Gallagher, gardener to Miss Gratz. *Indigenous plants*—for the best display, grown in pots, to Robert Kilvington. *Design of cut flowers*—for the best, to Ben Daniels; for the best, of indigenous flowers, to Robert Kilvington. *Basket, formed of cut flowers*—to Ben Daniels. And a special premium of three dollars to Robert Scott, foreman to Robert Buist, for three new plants—the *Eschynanthus Bosceanus*, *Calystegia pubescens*, and a seedling *Cactus*. The committee have much pleasure in noticing the beautiful collection of plants from the garden of Peter Mackenzie. (The Seedling *Camellia* exhibited by him, *ad interim*, and for which the premium was awarded, is of the following description: Plant—the original stock—about three and a half feet in height, in thrifty condition, grown from seed sown in 1844; leaves four inches long, by two to two and a half wide, oblong-lanceolate, with attenuated point, closely dentated, veined, light green, paler on the under surface; petiole half an inch long; bud small ovate, scales light green, margins thin, very slightly discoloured; flower four inches in diameter, petals in twelve rows, regularly imbricated to the centre; colour a dark cherry red. The first flower borne by the plant.) The committee take pleasure in reporting that Gerhard Schmetz exhibited before them, *ad interim*, a number of Seedling *Tulips*, three years from the seed, all healthy, and large, mostly plain, but doubtless will break with a few more years of cultivation, as some of them promise fair.

The Committee on Fruits report, that they award a special premium of ten dollars to Ben Daniels, gardener to Caleb Cope, for the most beautiful and superb display of four large bunches of the Black Hamburg Grape, perfectly coloured; three large bunches of ripe Sweet-water Grapes, a number of fine large high flavored Peaches, and a dish of finely ripened Nectarines, of the Elrue variety; also, a pot of Strawberries.

The Committee on Vegetables report, that they have awarded the following premiums: *Cucumbers*—for the best six in number, to Ben Daniels. *Rhubarb*—for the best twelve stalks, to William Hobson; for the second best, to Tho. Hancock. *Peas*—for the best half a peck, to Ben Daniels. *Potatoes*—for the best ten pounds, to Ben Daniels; for the best display by a commercial gardener, to Anthony Felten; for the best display by an amateur gardener, to Ben Daniels; for the second best, to Patrick Gallagher, gardener to Miss Gratz. And special premiums, of two dollars each, to Patrick Gallagher, for a fine display of *Cauliflowers*; and to Wm. Lutz, for a fine display of *Asparagus*.

The committee notice a fine specimen of Seedling *Rhubarb*, shown by Wm. Hobson. Also, a couple of fine *Potatoes*, grown in Mercer county, Pa., by Wm. F. Clark, called the "*Big Red*;" where grown, two of the tubers weighed respectively, one pound six ounces, and one pound five ounces, said to be prolific.

Members Elected.—Capt. Wm. McMichael, Joseph Milligan, secretary of the Royal Society, Van Dieman's Land, I. G. Dayton, Charleston, S. C., to honorary and corresponding membership. Emilen Physic, I. L. Erringer, I. A. Clay, E. A. Creunshaw, W. L. Schaffer, Wm. Burnley, B. A. Falnestock and Matthew Gardiner, to resident membership.

THO. P. JAMES,
Recording Secretary.

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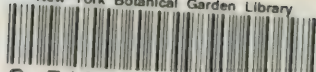
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